# Mission Town Center

# Draft Environmental Impact Report

# SCH No. 2015032076

## Volume I

**Prepared for:**

City of Santa Clara
1500 Warburton Avenue
Santa Clara, California 95050

**Prepared by:**

Impact Sciences, Inc.
505 14th Street, Suite 1230
Oakland, California 94612

**November 2015**

# TABLE OF CONTENTS


Section Page

1.0 INTRODUCTION ..... 1.0-1
- 1.1 Purpose of this EIR ..... 1.0-1
- 1.2 Summary of the Proposed Project ..... 1.0-2
- 1.3 Environmental Review Process ..... 1.0-2
- 1.4 Scope of this EIR ..... 1.0-3
- 1.5 Report Organization ..... 1.0-4

2.0 EXECUTIVE SUMMARY ..... 2.0-1
- 2.1 Purpose ..... 2.0-1
- 2.2 Project Location ..... 2.0-1
- 2.3 Project Description ..... 2.0-1
- 2.4 Project Objectives ..... 2.0-2
- 2.5 Alternatives ..... 2.0-3
  - 2.5.1 Alternative 1: No Project/No Redevelopment ..... 2.0-3
  - 2.5.2 Alternative 2: No Project/Planned Development ..... 2.0-3
  - 2.5.3 Alternative 3: Reduced Residential Density ..... 2.0-4
- 2.6 Issues to be Resolved/Areas of Controversy ..... 2.0-4
- 2.7 Impact Summary ..... 2.0-5

3.0 PROJECT DESCRIPTION ..... 3.0-1
- 3.1 Introduction ..... 3.0-1
- 3.2 Project Approvals ..... 3.0-1
- 3.3 Project Objectives ..... 3.0-2
- 3.4 Project Setting ..... 3.0-3
  - 3.4.1 Existing Site Conditions ..... 3.0-5
- 3.5 Project Characteristics ..... 3.0-6
  - 3.5.1 Proposed Land Uses ..... 3.0-6
  - 3.5.2 Building Design ..... 3.0-9
- 3.6 Circulation and Parking ..... 3.0-10
- 3.7 Landscaping ..... 3.0-21
- 3.8 Utilities ..... 3.0-21
  - 3.8.1 Potable and Irrigation Water ..... 3.0-21
  - 3.8.2 Wastewater ..... 3.0-22
  - 3.8.3 Storm Drainage ..... 3.0-22
  - 3.8.4 Electricity and Natural Gas ..... 3.0-24
  - 3.8.5 Sustainable Development Features ..... 3.0-24
- 3.9 Demolition and Construction Activities ..... 3.0-26
- 3.10 Lead and Responsible Agencies ..... 3.0-27

4.0 ENVIRONMENTAL IMPACT ANALYSIS ..... 4.0-1
- 4.0.1 Introduction ..... 4.0-1
- 4.0.2 Levels of Significance ..... 4.0-1
- 4.0.3 Format of Resource Topic Sections ..... 4.0-2
  - 4.0.3.1 Introduction ..... 4.0-2
  - 4.0.3.2 Environmental Setting ..... 4.0-2

4.0.3.3 Regulatory Considerations ....4.0-3
4.0.3.4 Project Impacts and Mitigation Measures ....4.0-3
4.0.3.5 Cumulative Impacts and Mitigation Measures ....4.0-3
4.1 Air Quality ....4.1-1
4.1.1 Introduction ....4.1-1
4.1.2 Environmental Setting ....4.1-1
4.1.3 Regulatory Considerations ....4.1-5
4.1.4 Impacts and Mitigation Measures ....4.1-14
4.1.5 References ....4.1-48
4.2 Cultural Resources ....4.2-1
4.2.1 Introduction ....4.2-1
4.2.2 Environmental Setting ....4.2-1
4.2.3 Regulatory Considerations ....4.2-14
4.2.4 Impacts and Mitigation Measures ....4.2-20
4.2.5 References ....4.2-38
4.3 Greenhouse Gas Emissions ....4.3-1
4.3.1 Introduction ....4.3-1
4.3.2 Environmental Setting ....4.3-1
4.3.3 Regulatory Considerations ....4.3-6
4.3.4 Impacts and Mitigation Measures ....4.3-26
4.3.5 References ....4.3-43
4.4 Hazards and Hazardous Materials ....4.4-1
4.4.1 Introduction ....4.4-1
4.4.2 Environmental Setting ....4.4-1
4.4.3 Regulatory Setting ....4.4-18
4.4.4 Impacts and Mitigation Measures ....4.4-23
4.4.5 References ....4.4-35
4.5 Land Use and Planning ....4.5-1
4.5.1 Introduction ....4.5-1
4.5.2 Environmental Setting ....4.5-1
4.5.3 Regulatory Setting ....4.5-2
4.5.4 Impacts and Mitigation Measures ....4.5-5
4.5.5 References ....4.5-14
4.6 Noise ....4.6-1
4.6.1 Introduction ....4.6-1
4.6.2 Fundamentals of Noise and Vibration ....4.6-1
4.6.3 Environmental Setting ....4.6-6
4.6.4 Regulatory Considerations ....4.6-11
4.6.5 Impacts and Mitigation Measures ....4.6-15
4.6.6 References ....4.6-32

4.7 Public Services ....4.7-1
4.7.1 Introduction ....4.7-1
4.7.2 Environmental Setting ....4.7-1
4.7.3 Regulatory Considerations ....4.7-4
4.7.4 Impacts and Mitigation Measures ....4.7-7
4.7.5 References ....4.7-16
4.8 Transportation and Traffic ....4.8-1
4.8.1 Introduction ....4.8-1
4.8.2 Environmental Setting ....4.8-1
4.8.3 Regulatory Considerations ....4.8-14
4.8.4 Impacts and Mitigation Measures ....4.8-17
4.8.5 References ....4.8-41
4.9 Utilities and Service Systems ....4.9-1
4.9.1 Introduction ....4.9-1
4.9.2 Environmental Setting ....4.9-1
4.9.3 Regulatory Considerations ....4.9-9
4.9.4 Impacts and Mitigation Measures ....4.9-15
4.9.5 References ....4.9-36
4.10 Other Resource Topics ....4.10-1
4.10.1 Introduction ....4.10-1
4.10.2 Aesthetics ....4.10-1
4.10.3 Agriculture and Forestry Resources ....4.10-4
4.10.4 Biological Resources ....4.10-5
4.10.5 Geology and Soils ....4.10-11
4.10.6 Hydrology and Water Quality ....4.10-14
4.10.7 Mineral Resources ....4.10-21
4.10.8 Population and Housing ....4.10-21
4.10.9 References ....4.10-23

5.0 ALTERNATIVES ....5.0-1
5.1 Introduction ....5.0-1
5.2 Project Objectives ....5.0-2
5.3 Impacts of the Proposed Project ....5.0-2
5.3.1 Air Quality ....5.0-3
5.3.2 Cultural Resources ....5.0-4
5.3.3 Greenhouse Gas Emissions ....5.0-4
5.3.4 Hazards and Hazardous Materials ....5.0-4
5.3.5 Land Use and Planning ....5.0-5
5.3.6 Noise ....5.0-5
5.3.7 Public Services ....5.0-5
5.3.8 Transportation and Traffic ....5.0-5
5.3.9 Utilities and Service Systems ....5.0-6
5.3.10 Other Resource Topics ....5.0-6
5.4 Alternatives Evaluated in Detail ....5.0-6
5.5 Alternative Impact Analysis ....5.0-7
5.5.1 Alternative 1: No Project/No Redevelopment ....5.0-7
5.5.2 Alternative 2: No Project/Planned Development ....5.0-10
5.5.3 Alternative 3: Reduced Residential Density ....5.0-15

5.6 Environmentally Superior Alternative ..... 5.0-20
5.7 References ..... 5.0-24

6.0 OTHER CEQA CONSIDERATIONS ..... 6.0-1
6.1 Introduction ..... 6.0-1
6.2 Significant Unavoidable Effects ..... 6.0-1
6.3 Significant Irreversible Environmental Changes ..... 6.0-2
6.3.1 Commit Future Generations to Similar Uses ..... 6.0-2
6.3.2 Irreversible Changes to the Physical Environment ..... 6.0-3
6.3.3 Consumption of Natural Resources ..... 6.0-3
6.4 Growth-Inducing Impacts ..... 6.0-3
6.4.1 Removal of an Impediment to Growth ..... 6.0-4
6.4.2 Population and Economic Growth ..... 6.0-6
6.4.3 Development of Open Space ..... 6.0-6
6.5 Mandatory Findings of Significance ..... 6.0-7
6.6 References ..... 6.0-8

7.0 REPORT PREPARATION ..... 7.0-1
7.1 Lead Agency ..... 7.0-1
7.2 EIR Consultant ..... 7.0-1

## Appendices

**Volume II**

4.1 Air Quality and Greenhouse Gas Emission Assessment
4.2 Cultural Resources Treatment Plan
Historic Architecture Evaluation Report
4.4 Phase I Environmental Site Assessment
Phase II Environmental Site Assessment
Supplemental Phase II Environmental Site Assessment
Environmental Summary Report
Accidental Release Assessment Technical Memorandum
4.6 Environmental Noise Impact Report

**Volume III**

4.8 Transportation Impact Analysis
4.9 Water Supply Assessment
4.10 Biological Resource Assessment
Tree Report
Preliminary Geotechnical Investigation Report
Hydrology Study

# LIST OF FIGURES


| Figure | | Page |
|---|---|---|
| 3.0-1 | Project Location | 3.0-4 |
| 3.0-2 | Site Plan | 3.0-8 |
| 3.0-3 | The Alameda Elevation | 3.0-12 |
| 3.0-4 | Benton Street Elevation | 3.0-13 |
| 3.0-5 | El Camino Real Elevation | 3.0-14 |
| 3.0-6 | North Elevation | 3.0-15 |
| 3.0-7 | Benton Street Perspective | 3.0-16 |
| 3.0-8 | El Camino Real/Benton Street Corner Perspective | 3.0-17 |
| 3.0-9 | El Camino Real Perspective | 3.0-18 |
| 3.0-10 | The Alameda Perspective | 3.0-19 |
| 3.0-11 | Vehicular Circulation | 3.0-20 |
| 4.4-1 | Nearby and On-Site Sites of Concern | 4.4-5 |
| 4.4-2 | Soil and Groundwater Sampling | 4.4-14 |
| 4.6-1 | Noise Monitoring Locations | 4.6-9 |
| 4.6-2 | Vibration Measurement Locations | 4.6-10 |
| 4.6-3 | General Plan Noise Standards | 4.6-13 |
| 4.6-4 | Preliminary Estimated Recommended STC Ratings for Windows and Exterior Doors (Floors 1 and 2) | 4.6-18 |
| 4.6-5 | Preliminary Estimated Recommended STC Ratings for Windows and Exterior Doors (Floors 3 to 5) | 4.6-19 |
| 4.8-1 | Project Vicinity | 4.8-5 |
| 4.8-2 | Existing Transit Service | 4.8-6 |
| 4.8-3 | Existing Bicycle Facilities | 4.8-7 |
| 4.8-4 | Existing Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control Devices | 4.8-12 |
| 4.8-5 | Project Trip Distribution | 4.8-24 |
| 4.8-6 | Project Trip Assignment | 4.8-25 |
| 4.8-7 | Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Project | 4.8-29 |
| 4.8-8 | Peak Hour Traffic Volumes and Lane Configurations – Background (2020) Plus Project | 4.8-33 |
| 4.8-9 | Peak Hour Traffic Volumes and Lane Configurations – Cumulative (2040) Plus Project | 4.8-40 |

# LIST OF TABLES


| Table | | Page |
|---|---|---|
| 2.0-1 | Summary of Proposed Project Impacts and Mitigation Measures | 2.0-6 |
| 2.0-2 | Summary Comparison of Project Alternatives | 2.0-35 |
| 3.0-1 | Existing Site Conditions | 3.0-5 |
| 3.0-2 | Proposed Building Space | 3.0-6 |
| 3.0-3 | Residential Unit Mix Summary | 3.0-7 |
| 3.0-4 | Proposed Parking | 3.0-11 |
| 4.0-1 | Approved Projects | 4.0-4 |
| 4.0-2 | Pending Projects | 4.0-8 |
| 4.1-1 | Ambient Air Quality Standards | 4.1-3 |
| 4.1-2 | Highest Measured Air Pollutant Concentrations near the Project Site | 4.1-5 |
| 4.1-3 | National Ambient Air Quality Standard Designations – San Francisco Bay Area Air Basin | 4.1-7 |
| 4.1-4 | California Ambient Air Quality Standard Designations – San Francisco Bay Area Air Basin | 4.1-8 |
| 4.1-5 | Average Daily Construction Emission Thresholds | 4.1-15 |
| 4.1-6 | Operational Emission Thresholds | 4.1-16 |
| 4.1-7 | Unmitigated Mission Town Center Project Construction Emissions | 4.1-19 |
| 4.1-8 | Mission Town Center Project Operational Emissions | 4.1-25 |
| 4.1-9 | Health Risk Parameters Used for Cancer Risk Calculations | 4.1-30 |
| 4.1-10 | Maximum Community Risks without Mitigation from Project Construction Activities | 4.1-31 |
| 4.1-11 | El Camino Real Community Risk Levels at the Project Site | 4.1-37 |
| 4.1-12 | Diesel Locomotive Community Risk Levels at Project Dwelling Units | 4.1-40 |
| 4.1-13 | Stationary Source Excess Cancer Risk and Annual PM2.5 Concentrations at the Project Site | 4.1-43 |
| 4.1-14 | Cumulative Impacts at Construction MEI from Combined Sources | 4.1-46 |
| 4.1-15 | Cumulative Operational Impacts from Existing TAC Sources on Project Receptors | 4.1-47 |
| 4.2-1 | Project Site Historic Architectural Resources | 4.2-9 |
| 4.3-1 | Top Five GHG Producer Countries and the European Union (Annual) | 4.3-4 |
| 4.3-2 | GHG Emissions in California | 4.3-5 |
| 4.3-3 | AB 32 Scoping Plan Measures (SPMs) | 4.3-13 |
| 4.3-4 | Santa Clara Climate Action Plan Compliance with BAAQMD Requirements for Qualified GHG Reduction Strategy | 4.3-21 |
| 4.3-5 | Project Operational GHG Emissions | 4.3-32 |
| 4.3-6 | Proposed Project Consistency with Santa Clara Climate Action Plan | 4.3-33 |
| 4.3-7 | Proposed Project Consistency with Plan Bay Area | 4.3-40 |
| 4.4-1 | Historical Use of the Project Site | 4.4-10 |
| 4.4-2 | Historical Use of Nearby Sites | 4.4-11 |
| 4.4-3 | Maximum Concentrations of On-site Contaminants | 4.4-12 |
| 4.6-1 | Outside to Inside Noise Attenuation (dB(A)) | 4.6-2 |
| 4.6-2 | Human Response to Transient Vibration | 4.6-4 |
| 4.6-3 | Human Response to Continuous Vibration | 4.6-4 |
| 4.6-4 | Effects on Buildings from Continuous Vibration | 4.6-4 |
| 4.6-5 | Maximum Vibrations Levels for Historic or Sensitive Buildings | 4.6-5 |
| 4.6-6 | FTA Criteria – General Assessment | 4.6-6 |
| 4.6-7 | FTA Criteria – Detailed Assessment | 4.6-6 |

# LIST OF TABLES (continued)


| Table | | Page |
|---|---|---|
| 4.6-8 | Monitored Noise Levels | 4.6-7 |
| 4.6-9 | On-Site Measured Vibration Data – Freight (Infrequent Passbys) | 4.6-8 |
| 4.6-10 | On-Site Measured Vibration Data – Commuter Rail (Frequent Passbys) | 4.6-8 |
| 4.6-11 | On-Site Measured Vibration Levels | 4.6-22 |
| 4.6-12 | Mission Town Center Project Construction Noise Levels | 4.6-26 |
| 4.6-13 | Construction Vibration Levels (in PPV) | 4.6-29 |
| 4.7-1 | Project Area Schools | 4.7-3 |
| 4.8-1 | Existing Transit Service | 4.8-3 |
| 4.8-2 | Study Intersections | 4.8-9 |
| 4.8-3 | Signalized Intersection Level of Service Definitions | 4.8-10 |
| 4.8-4 | Unsignalized Intersection Level of Service Definitions | 4.8-11 |
| 4.8-5 | Existing Conditions – Study Intersection LOS Summary | 4.8-13 |
| 4.8-6 | Summary of Data Sources for Project Mixed-Use Reductions (MainStreet Tool) | 4.8-21 |
| 4.8-7 | Project Trip Generation | 4.8-23 |
| 4.8-8 | Existing with Project Intersection Levels of Service | 4.8-27 |
| 4.8-9 | Background (2020) Plus Project Intersection Levels of Service | 4.8-31 |
| 4.8-8 | Cumulative (2040) with Project Intersection Levels of Service | 4.8-38 |
| 4.9-1 | Estimated Project Water Demand | 4.9-17 |
| 4.9-2 | Changes in Water Demand from the UWMP (afy) By Planning Period, excluding the Proposed Project and including Projects Not Specifically Considered in the UWMP | 4.9-18 |
| 4.9-3 | Changes in Water Demand from the UWMP (afy) By Planning Period, Including Projects Not Specifically Considered in the UWMP and Treating Project Demand as a New Water Use Occurring in the 2015–2019 Planning Period | 4.9-18 |
| 4.9-4 | UWMP Normal Year Supply and Demand Projections 2015-2035 (acre-feet) | 4.9-19 |
| 4.9-5 | UWMP Single Dry Year Supply and Demand Projections 2015-2035 (acre-feet) | 4.9-20 |
| 4.9-6 | UWMP Multiple Dry Year Supply and Demand Projections with SFPUC Supplies 2015–2035 (acre-feet) | 4.9-21 |
| 4.9-7 | 2010 UWMP Multiple Dry Year Supply and Demand Projections 2015–2035 Without SFPUC Supplies after 2018 (acre-feet) | 4.9-22 |
| 4.9-8 | Summary of City Voluntary and Mandatory Water Demand Management Measures | 4.9-23 |
| 4.9-9 | Estimated Project Average Dry Weather Wastewater Generation | 4.9-26 |
| 4.9-10 | Estimated Project Solid Waste Generation | 4.9-29 |
| 4.9-11 | Estimated Project Electricity Demand | 4.9-31 |
| 4.9.12 | Estimated Project Natural Gas Demand | 4.9-32 |
| 5.0-1 | Summary Comparison of Project Alternatives | 5.0-21 |

# 1.0 INTRODUCTION

The City of Santa Clara(City) has prepared this Environmental Impact Report (EIR) to provide an assessment of the potentially significant environmental effects of the proposed Mission Town Center project (proposed project), located at the intersection of Benton Street and El Camino Real in the southeastern portion of the City of Santa Clara. As required by the California Environmental Quality Act (CEQA), this Draft EIR (1) assesses the potentially significant environmental effects of the proposed project, including cumulative impacts of the proposed project in conjunction with other reasonably foreseeable development; (2) identifies feasible means of avoiding or substantially lessening significant adverse impacts; and (3) evaluates a range of reasonable alternatives to the proposed project, including the No Project Alternative.

## 1.1 PURPOSE OF THIS EIR

The purpose of this EIR is to inform decision makers for the City of Santa Clara, other responsible agencies, and the public of the environmental consequences of implementing the project as proposed. The EIR has been prepared in accordance with and in fulfillment of the *CEQA Statute and Guidelines (State CEQA Guidelines*). The City of Santa Clara is the Lead Agency for this EIR. The Santa Clara City Council has the principal responsibility for authorizing the implementation of the project as proposed.

As described in CEQA and the *State CEQA Guidelines*, public agencies are required to avoid or substantially lessen significant environmental effects of a project where feasible. A public agency has an obligation to balance the potential significant effects on the environment from the implementation of a proposed project with its benefits, including economic, social, technological, legal, and other benefits. This Draft EIR is an informational document, the purpose of which is to identify the potentially significant effects of the proposed project on the environment and to indicate the manner in which those significant effects can be avoided or lessened; to identify any significant and unavoidable adverse impacts that cannot be mitigated; and to identify reasonable and feasible alternatives to the proposed project that would eliminate any significant adverse environmental effects or reduce the impacts to a less than significant level.

The Lead Agency is required to consider the information in the EIR, along with any other relevant information, in making its decisions on the proposed project. Although the EIR does not determine the ultimate decision that the City Council will make regarding implementation of the proposed project, CEQA requires the Lead Agency to consider the information in the EIR and make findings regarding each significant effect identified in the EIR. If the City Council determines the EIR to be adequate, it will

certify the Final EIR prior to taking action on the proposed project and requested entitlements. Other agencies may also use this EIR in their review and approval processes.

## 1.2 SUMMARY OF THE PROPOSED PROJECT

The applicant proposes to demolish the existing buildings on the project site and construct a mixed-use residential development project that would consist of 385 apartment units with approximately 353,054 gross square feet (gsf) of residential building space and an overall site density of approximately 67 dwelling units per acre. The proposed project also includes approximately 10,000 square feet of amenity and leasing space, three distinct private open space areas, and about 27,000 square feet of ground floor retail. Parking would be provided in a six-story parking structure with five levels of above-grade and one level of below-grade parking. The parking structure would be located in the center of the project site and wrapped by the proposed residential and retail uses. Approximately 839 parking spaces would be provided. Other infrastructure improvements (i.e., sewer, water, and storm drainage) needed to serve the proposed project would also be constructed. Access to the site would be provided from Benton Street and El Camino Real. The proposed site plans include the removal of the existing landscaping and planting of new trees and shrubs on the site. The proposed project also includes transportation improvements, including an upgrade to the signalized intersection of El Camino Real and Benton Street and the widening of sidewalks along El Camino Real, Benton Street, and The Alameda.

## 1.3 ENVIRONMENTAL REVIEW PROCESS

The City issued a Notice of Preparation (NOP) for this Draft EIR on March 26, 2015 and circulated it for 30 days. A scoping meeting was held on April 16, 2015.

The City has filed a Notice of Completion (NOC) with the Governor's Office of Planning and Research, State Clearinghouse indicating that this Draft EIR has been completed and is available for review and comment by the public.

The Draft EIR will be available for review by public and interested parties, agencies, and organizations for a review period of 45 days, as required by California law. In reviewing the Draft EIR, reviewers should focus on the document's adequacy in identifying and analyzing significant effects of the proposed project on the environment and ways in which the significant effects of the project might be avoided or mitigated. To ensure inclusion in the Final EIR and full consideration by the Lead Agency, comments on the Draft EIR must be received in writing during the 45-day public review period at the following address:

Contact: Yen Han Chen, Associate Planner
The City of Santa Clara
City Hall
1500 Warburton Avenue
Santa Clara, California 95050
Email address: ychen@santaclaraca.gov

Responses to comments on the Draft EIR will be prepared and included in the Final EIR. The Draft EIR text and appendices, together with the response to comments document and any text changes to the Draft EIR made in response to comments or other new information, will constitute the Final EIR.

The City of Santa Clara will review the Final EIR for adequacy and consider it for certification pursuant to the requirements of Section 15090 of the *State CEQA Guidelines*. If the City certifies the Final EIR, it will then consider the project separately for approval or denial. If the City chooses to approve the project, findings on the feasibility of reducing or avoiding significant environmental effects will be made and, if necessary, a Statement of Overriding Considerations will be prepared. If the City approves the project, a Notice of Determination (NOD) will be prepared and filed with the State Clearinghouse and the County Clerk. The NOD will include a description of the project, the date of approval, an indication of whether the Findings and Statement of Overriding Considerations were prepared, and the address where the Final EIR and record of project approval are available for review.

## 1.4 SCOPE OF THIS EIR

The City of Santa Clara completed a preliminary review of the application for the proposed project, as described in Section 15060 of the *State CEQA Guidelines*, and determined that a Project EIR was required. The City also determined that the following key environmental topics would be evaluated in detail in the Draft EIR:

- Air Quality
- Cultural Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Land Use and Planning
- Noise
- Public Services
- Transportation and Traffic
- Utilities and Service Systems, including Energy

The City selected these environmental topics for thorough analysis based on anticipated environmental impacts and scoping comments received during the 30-day scoping period. The Draft EIR also addresses the following topics: aesthetics, agricultural resources; biological resources; geology and soils; hydrology and water quality; mineral resources; and population and housing, but at a lower level of detail.

## 1.5 REPORT ORGANIZATION

This Draft EIR is organized into the following sections:

**Section 1.0, Introduction**, provides an introduction and overview describing the purpose and scope of topics addressed in this Draft EIR and the environmental review process.

**Section 2.0, Executive Summary**, presents a brief description of the proposed project, summarizes environmental consequences that would result from implementation of the proposed project, provides a summary table that denotes anticipated significant environmental impacts, describes identified mitigation measures, and indicates the level of significance of impacts before and after mitigation. In addition, this section also presents a brief description of alternatives to the proposed project and provides a table comparing each of the alternatives to the proposed project.

**Section 3.0, Project Description**, describes the proposed project, including the proposed land uses, on-site parking and circulation, as well as other improvements such as pedestrian facilities, landscaping, and utilities to serve the proposed development.

**Section 4.0, Environmental Impact Analysis**, describes the environmental setting, including applicable plans and policies for each environmental topic identified above; provides an analysis of the significant environmental impacts of the proposed project; and identifies mitigation measures to avoid or reduce the magnitude of significant impacts.

**Section 5.0, Alternatives**, summarizes alternatives to the proposed project and the comparative environmental consequences of each alternative. This section includes an analysis of the No Project Alternative, among others as required by CEQA.

**Section 6.0, Other CEQA Considerations**, provides a discussion of the project's significant and unavoidable impacts and significant irreversible environmental changes, the potential for growth inducement due to project implementation, and mandatory findings of significance.

**Section 7.0, Report Preparation,** provides a list of the individuals involved in the preparation of the Draft EIR.

**Appendices** to this Draft EIR include the technical reports used to prepare the Draft EIR sections.

# 2.0 EXECUTIVE SUMMARY

## 2.1 PURPOSE

This Environmental Impact Report (EIR) provides an assessment of the potentially significant environmental effects from implementation of the proposed Mission Town Center project (proposed project). This Executive Summary is intended to provide the decision makers, responsible agencies, and the public with a clear, simple, and concise description of the proposed project and the potential significant environmental impacts that could result from its implementation.

The *California Environmental Quality Act (CEQA) Guidelines (*Section 15123) require that a summary be included in an EIR that identifies all major conclusions, identifies each significant effect, recommended mitigation measure(s), and alternatives that would minimize or avoid potential significant impacts of the proposed project. The summary is also required to identify areas of controversy known to the lead agency, including issues raised by agencies and the public and issues to be resolved. These issues can include the choice among alternatives and whether or how to mitigate significant effects. All of these requirements of an EIR summary are addressed in the sections below. This summary focuses on the major areas of importance in the environmental analysis for the proposed project and utilizes non-technical language to promote understanding. The City of Santa Clara City Council is the CEQA lead agency for the proposed project.

## 2.2 PROJECT LOCATION

The project site is located in the southeastern portion of the City at the corner of Benton Street and El Camino Real. Specifically, the project site is bound by Benton Street to the south, commercial and residential development along Harrison Street to the north, The Alameda to the west, and El Camino Real to the east. Regional access to the project site is provided by Interstate 880 (I-880) to the southeast via The Alameda and El Camino Real. Direct access to the site is provided by Benton Street and El Camino Real. Secondary access to the project site is provided by The Alameda and Harrison Street.

## 2.3 PROJECT DESCRIPTION

The project applicant (Irvine Company) proposes to demolish the existing buildings on the project site and construct a mixed-use residential development project that would consist of 385 apartment units, approximately 10,000 square feet of conditioned amenity and leasing space, three distinct private open space areas, and about 27,000 square feet of ground floor retail. Parking would be provided in a six-story parking structure with five levels above-grade and one level of below-grade parking. Approximately 839

parking spaces would be provided. Other infrastructure improvements (i.e., sewer, water, and storm drainage) needed to serve the proposed project would also be constructed. Direct access to the site is provided by Benton Street and El Camino Real. The proposed site plan includes removal of the existing landscaping and planting of new trees and shrubs on the site. The proposed project also includes transportation improvements, including an upgrade to the signalized intersection of El Camino Real and Benton Street and the widening of sidewalks along El Camino Real, Benton Street, and The Alameda.

It is anticipated that the City Council would consider the Draft EIR for certification in early 2016. If the proposed project were approved, site demolition work would begin in early summer 2016, followed by site grading and utility infrastructure work in late summer 2016. Construction of residential units is expected to commence in mid- fall 2016 with full occupancy by the start of 2019. See **Section 3.0, Project Description**, for further information about the project characteristics.

## 2.4 PROJECT OBJECTIVES

The City of Santa Clara has developed the following primary objectives to satisfy the requirements of *State CEQA Guidelines* Section 15124 (b).

- Provide development consistent with the City's long-term development goals.
- Create a mixed-use development of a scale and character that complements and is supportive of the surrounding uses.
- Create a mixed-use development that maximizes density with accessibility to alternate transportation modes, and integrates pedestrian, bicycle, transit, open space and outdoor uses to encourage active centers.
- Implement smart growth principles by redeveloping underutilized properties with higher density housing projects along established transit corridors.

The applicant's project objectives are to develop a well-designed, economically feasible residential community that consists of a variety of residential products and unit types, and incorporates smart-growth elements such as redevelopment of underutilized properties and implementation of higher-density development along established transit corridors. The applicant's key objectives for the proposed project are to:

- Develop a well-designed, economically feasible residential community that consists of a variety of residential products and unit types;
- Develop a community that incorporates smart-growth elements such as redevelopment of underutilized properties and implementation of higher-density development along established transit corridors;

- Create a sustainable infill mixed use, residential project that complements adjacent residential neighborhoods to the west and south and nearby Santa Clara University;
- Attain a project designed to a minimum LEED Gold or greater equivalent standard; and
- Improve the jobs/housing balance within the City.

## 2.5 ALTERNATIVES

Consistent with CEQA requirements, a reasonable range of alternatives was evaluated that could feasibly avoid or lessen any significant environmental impacts while substantially attaining the basic objectives of the proposed project. The alternatives analyzed in detail in this Draft EIR are presented below.

### 2.5.1 Alternative 1: No Project/No Redevelopment Alternative

The *State CEQA Guidelines* require the analysis of a No Project Alternative (Section 15125.6(e)). This analysis must discuss existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project were not to be approved based on current plans, site zoning, and consistent with available infrastructure and community services. The purpose of describing and analyzing a No Project Alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

Under the No Project/No Redevelopment Alternative, the existing buildings, streets, hardscape, and landscaping would remain in their current condition and the buildings would remain occupied with residential, commercial and light industrial uses

### 2.5.2 Alternative 2: No Project/Planned Development

The project site is located in the area designated Santa Clara Station Area in the Santa Clara General Plan. Specifically, the portion of the project site located along El Camino Real is designated Santa Clara Station High Density Residential (37-50 dwelling unit/acre [du/ac]) while the remainder of the site is designated Santa Clara Station Low Density Residential (8-18 du/ac). The proposed project would involve a General Plan amendment to change the designation of the entire project site to Santa Clara Station Very High Density Residential (51-90 du/ac) and allow neighborhood commercial retail uses along Benton Street and El Camino Real. The No Project/Planned Development Alternative would redevelop the site consistent with the land use designations provided for the project site in the General Plan.

The parcels on the project site designated as Santa Clara Station High Density Residential cover approximately 2.4 acres while the parcels on the project site designated as Santa Clara Station Low Density Residential cover about 2.3 acres. The remaining one acre (approximate) consists of street

sections (Sherman and Fremont Streets), which would remain in place and would not be vacated or developed with housing. Based on the acreage and the allowed densities, a maximum of 120 residential units would be allowed on the parcels designated Santa Clara Station High Density Residential and a maximum of 41 residential units would be allowed on the parcels designated Santa Clara Station Low Density Residential for a total of 161 residential dwelling units (224 units fewer than the proposed project). No retail would be provided, as this land use is not allowed under either the Santa Clara Station High Density Residential or Santa Clara Station Low Density Residential designation. The overall residential density would be approximately 28 dwelling units per acre. The amount of amenity space would be proportionally reduced. A total of 291 parking spaces would be required and would be provided via an underground parking garage. Consistent with the General Plan, a centralized open space area would be provided. This alternative would involve similar demolition activities but substantially reduced construction activities as compared to the proposed project. The No Project/Planned Development Alternative is analyzed in this EIR because it would reduce the proposed project's significant operational traffic impacts.

### 2.5.3 Alternative 3: Reduced Residential Density

Under the Reduced Residential Density Alternative, the number of residential units proposed would be reduced by approximately 25 percent compared to the proposed project, thus lowering the number of residential units to about 289 units. The overall residential density would be approximately 50.7 dwelling units per acre. The amount of retail and amenity space would remain the same as the proposed project. The reduction in the number of residential units that would be built would be achieved by removing the top floor of the proposed structure and/or otherwise modifying the building plans to eliminate some units. The project footprint and landscaping plans under this alternative would essentially be the same as the proposed project, and the Sherman and Fremont Streets would be vacated and used for the development of the project facilities. As a result of the 25 percent reduction in the number of residential units, the parking needs of this alternative would be lower and a total of 672 parking spaces would be needed, instead of 839 parking spaces needed under the proposed project. All other aspects of the proposed project would remain the same. This alternative would involve similar demolition activities and slightly reduced construction activities as compared to the proposed project, but the same development footprint.

## 2.6 ISSUES TO BE RESOLVED/AREAS OF CONTROVERSY

The City issued a Notice of Preparation (NOP) for this Draft EIR on March 26, 2015 and circulated it for 30 days. The City also conducted a Scoping meeting on April 16, 2015 from 6:00 to 7:30 PM at the City Hall. Based on the scoping comments received on the NOP, the City notes the issues to be resolved and

areas of controversy relate to traffic, parking, air quality, noise, vibration, aesthetics, cultural resources, land use compatibility, density of the proposed development and natural resource consumption (water and energy). All of these issues were considered in the preparation of this Draft EIR.

## 2.7 IMPACT SUMMARY

A detailed discussion regarding potential environmental impacts of the proposed project is provided in **Section 4.0, Environmental Impact Analysis.** A summary of the impacts of the proposed project is provided in **Table 2.0-1, Summary of Impacts and Mitigation Measures**. The table also lists mitigation measures, which are proposed to avoid or reduce significant project impacts and indicates whether implementation of the recommended mitigation measures would reduce the impact to a less than significant level. **Table 2.0-2, Summary Comparison of Project Alternatives**, presents the environmental impacts of each alternative to allow the decision makers, agencies, and the public to compare and contrast these alternatives and weigh their relative merits and demerits.

**Table 2.0-1**
**Summary of Proposed Project Impacts and Mitigation Measures**

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Air Quality** | | | |
| **Impact AIR-1** | | **Mitigation Measure AIR-1** | |
| Construction activities associated with the proposed project would not result in a violation of an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment under an applicable national or state ambient air quality standard (including resulting in emissions which exceed quantitative thresholds for ozone precursors), but would result in substantial fugitive dust emissions. | Significant | **Mitigation Measure AIR-1a:** The construction contractor(s) shall implement the following BMPs during project construction:<br>• All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.<br>• All haul trucks transporting soil, sand, or other loose material off-site shall be covered.<br>• All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.<br>• All vehicle speeds on unpaved roads shall be limited to 15 mph.<br>• All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible and feasible. Building pads shall be laid as soon as possible and feasible after grading, unless seeding or soil binders are used.<br>• Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.<br>• All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.<br>• Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.<br>**Mitigation Measure AIR-1b:** Implement **Mitigation Measures HAZ-2a** through **HAZ-2d**. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Air Quality (continued)** | | | |
| **Impact AIR-2** | | | |
| Operation of the proposed project would not result in a violation of an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment under an applicable national or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). | Less than significant | No mitigation is required. | Less than significant |
| **Impact AIR-3** | | | |
| The proposed project would not conflict with or obstruct implementation of the applicable air quality plan. | Less than significant | No mitigation is required. | Less than significant |
| **Impact AIR-4** | | **Mitigation Measure AIR-4** | |
| Project construction activities and operations would expose existing or future sensitive receptors to substantial pollutant concentrations. | Significant | **Mitigation Measure AIR-4a**: Implement **Mitigation Measure AIR-1** to control fugitive dust and on-site construction exhaust emissions.<br>**Mitigation Measure AIR-4b:** Equipment shall be selected during demolition, grading and trenching construction phases to minimize emissions. Such equipment selection would include the following:<br>1. All diesel-powered off-road equipment larger than 50 horsepower and operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent; and<br>2. All diesel-powered portable equipment (i.e., air compressors, concrete saws, and forklifts) operating on the site for more than two days shall meet U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent.<br>**3.** As an alternative to measures 1 and 2 above, the construction contractor shall use other measures, or in combination with use of Tier 4 equipment, to minimize diesel particulate matter emissions during construction period, provided such measures reduce the predicted cancer risk below the thresholds and are approved by the City. Any diesel-powered off-road and portable equipment shall meet or exceed emission standards for Tier 2 engines. For example, the construction contractor may use other measures such as the use of alternative | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Air Quality (continued)** | | | |
| **Impact AIR-4 (continued)** | | **Mitigation Measure AIR-4b (continued)**<br>powered equipment (e.g., LPG-powered or electric lifts), alternative fuels (e.g., biofuels), added exhaust devices, or a combination of measures.<br>**Mitigation Measure AIR-4c:** The Applicant may choose to reassess the potential off-site cancer risk and PM2.5 concentration exposures to off-site residential receptors later in the design phase, but prior to the start of construction, and prepare a revised HRA using updated receptor location information and more detailed construction plans and equipment list and submit to the City for review. If the revised HRA demonstrates, to the satisfaction of the City, that the cancer risk and exposure to PM2.5 for all potentially exposed off-site receptors will be less than BAAQMD project-level thresholds, then **Mitigation Measure AIR-4b** is unnecessary. If the revised HRA demonstrates, to the satisfaction of the City, that the cancer risk or exposure to PM2.5 for off-site sensitive receptors will be less than presented in this analysis but still over BAAQMD thresholds, then the mitigation effort may be proportionately adjusted. | |
| **Impact AIR-5**<br>Project operation would expose project sensitive receptors to substantial pollutant concentrations. | Significant | **Mitigation Measure AIR-5**<br>**Mitigation Measure AIR-5a:** The project shall include the following measures to minimize long-term toxic air contaminant (TAC) exposure for new project residences:<br>1. Integrate building design features to limit exposure from sources of TAC and PM2.5;<br>**2.** Install air filtration in residential buildings. Air filtration devices shall be rated MERV13 or higher. To ensure adequate health protection to sensitive receptors, this ventilation system shall meet the following minimal design standards:<br>a. A MERV13 filter or higher rating;<br>b. At least one air exchange(s) per hour of fresh outside filtered air; and<br>c. At least four air exchange(s) per hour recirculation.<br>**3.** As part of implementing this measure, an ongoing maintenance plan for the buildings' heating, ventilation, and air conditioning (HVAC) air filtration system shall be required. Recognizing that emissions from air pollution sources are decreasing, the maintenance period shall last as long as significant excess cancer risk are predicted. Subsequent studies could be conducted by an appropriately credentialed environmental professional to identify the ongoing need for the ventilation systems as future information becomes available. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Air Quality (continued)** | | | |
| **Impact AIR-5 (continued)** | | **Mitigation Measure AIR-5a (continued)**<br>4. Ensure that the lease agreement and other property documents (1) require cleaning, maintenance, and monitoring of the residential buildings for air flow leaks; (2) assurance that new tenants are provided information on the ventilation system; (3) provisions that fees associated with leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed; and (4) provide information regarding the ventilation/filtration systems and importance of keeping windows and doors closed to maximize the efficiency of the system.<br>**Mitigation Measure AIR-5b:** The Applicant may choose to reassess the potential cancer risk exposures to on-site residential receptors later in the design phase, but prior to occupancy, and to prepare a revised HRA using updated receptor location information and a more detailed assessment of risks associated with rail line operations that accounts for the status of Caltrain electrification at that time and submit to the City for review. If the revised HRA demonstrates, to the satisfaction of the City, that the cancer risk exposures for on-site receptors will be less than BAAQMD project-level thresholds, then Mitigation Measure AIR-5a would be unnecessary. If the revised HRA demonstrates, to the satisfaction of the City, that the cancer risk for on-site sensitive receptors will be less than presented in this analysis, but still over BAAQMD threshold, the mitigation effort may be proportionately reduced. | |
| **Impact AIR-6** | | | |
| The proposed project would not create objectionable odors affecting a substantial number of people. | Less than significant | No mitigation is required. | Less than significant |
| **Cumulative Impact AIR-1** | | | |
| The proposed project, in conjunction with other past, present and reasonably foreseeable future development, would not result in significant cumulative air quality impacts. | Less than significant | No mitigation is required. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Cultural Resources** | | | |
| **Impact CUL-1** | | **Mitigation Measure CUL-1** | |
| The proposed project would potentially cause a substantial adverse change in the significance of a historic architectural resource as defined in CEQA Guidelines §15064.5. | Significant | **Mitigation Measure CUL-1a**: If feasible, the houses at 3410 and 3370 The Alameda shall be moved to a different location appropriate to their historic character, preferably within the Santa Clara historic quad or grid, or other appropriate setting as determined by the City of Santa Clara Planning Department prior to relocation of the building. The project applicant has agreed to pay for the relocation costs. However, a recipient site may not be available and hence relocation may not be feasible.<br><br>**Mitigation Measure CUL-1b**: If relocating either of the two buildings is determined to be infeasible, the salvage of materials and features of the buildings located on this parcel is recommended. Representatives of the Santa Clara Planning Department, the Santa Clara Historical Commission, the other citizen groups and parties interested in historical resources shall be given the opportunity to examine the buildings and provide suggestions for salvaging and relocating elements of the buildings. The project impact will be reduced commensurate with the percentage of the existing buildings that can be incorporated into the design for any new buildings on site or in other buildings in Santa Clara, or otherwise preserved.<br><br>**Mitigation Measure CUL-1c**: If relocating either of the two buildings is determined to be infeasible, historic documentation of the two houses shall be completed prior to salvage or demolition. This documentation shall be according to the Outline Format described in the Historic American Buildings Survey Guidelines for Preparing Written Historical Descriptive Data (Pacific Coast Basin Regional Office, U.S. National Park Service, 1993) and the Photographic Specifications – Historic American Building Survey (U.S. National Park Service, 1989). The documentation, with original photo prints and negatives, should be placed in an historical archive or history collection accessible to the general public (such as the Santa Clara Main Library History Pavilion).<br><br>**Mitigation Measure CUL-1d:** If relocating either of the two buildings is determined to be infeasible, a public exhibit/education program to present interpretive information on the early residential development and architecture of the project area and vicinity shall be prepared by the Applicant. The exhibit shall be placed on site, at the Santa Clara Historic Museum in the Headen-Inman House, or other appropriate venue in Santa Clara, as determined by the City of Santa Clara Planning Department prior to placement of the public exhibit/education program. | Significant and unavoidable |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Cultural Resources (continued)** | | | |
| **Impact CUL-2** | | **Mitigation Measure CUL-2** | |
| The proposed project would potentially cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5, and would disturb any human remains, including those interred outside of formal cemeteries. | Potentially significant | **Mitigation Measure CUL-2a**: **Cultural Resources Treatment Plan**: The Treatment Plan (presented in **Appendix 4.2**) will be implemented by the Applicant to mitigate the project's potentially significant impacts on archaeological resources that are encountered during project site excavation and grading. The Treatment Plan identifies a series of specific measures for areas of sensitivity within the project site, and construction monitoring for the remainder of the project site. Key aspects of the Treatment Plan are summarized below; refer to **Appendix 4.2,** Cultural Resources Treatment Plan, pages 122 through 143, for the complete Treatment Plan that shall be implemented.<br><br>**Mitigation for Less Sensitive Areas**<br><br>**Construction Monitoring during Ground Disturbance.** Areas not known to be sensitive shall be monitored by a trained archaeologist during ground disturbing activities. Archaeological monitors shall observe all initial grading within the northeast portion of the project site. If archaeological materials are found, all work within 50 feet of the find shall stop. The monitor and the archaeological team shall conduct a rapid significance assessment as described below. If the archaeologist determines that an archaeological feature is significant under CEQA, the feature shall be subject to data recovery mitigation to reduce adverse impacts to less than significant. Data recovery, if undertaken, will follow the procedures for excavation, analysis, and reporting defined in the Treatment Plan and set forth below.<br><br>**Mitigation for Areas of Sensitivity**<br><br>The Treatment Plan requires that an archaeological team shall be given access to conduct mechanical excavation in "open spaces" within the area of sensitivity, including parking lots, back yards, and access ways. Then after demolition permits are awarded, an archaeological team shall be given access to conduct mechanical excavation and examine areas of sensitivity underneath existing structures. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Cultural Resources (continued)** | | | |
| **Impact CUL-2 (continued)** | | **Mitigation Measure CUL-2a (continued)**<br>The key elements of the Treatment Plan for sensitive areas are summarized below:<br>**A. Excavation and Evaluation of Pre-Colonial Era Resources**<br>1. Mechanical Excavation. A mechanical trenching program in conjunction with the screening of soils shall be implemented to investigate the presence of previously unidentified buried Pre-Colonial deposits within the project site. Between 3 and 5 trenches shall be excavated within the project parcel. These trenches shall measure 2 meters in length and be excavated to Native soil, unless an archaeological feature is encountered prior to reaching Native soil. Excavation shall involve a backhoe equipped with a 46 cm flat-bladed bucket.<br>2. Evaluation of Significance. If no Pre-Colonial archaeological deposits are encountered during mechanical excavation, or are found in disturbed contexts, no further action is required. If intact archaeological deposits are encountered, additional archaeological excavation shall be required to evaluate the site in accordance with CEQA Guidelines Section 15064.5(c), and if needed, implement appropriate mitigation measures as set forth in the Treatment Plan.<br>If intact Pre-Colonial deposits are encountered during mechanical excavation, excavation of 1 to 2 Surface Transect Units (STUs) of 1 x 0.5 meters in size shall be conducted in each identified site or area of intact deposit to assess the spatial extent and structure of the subsurface deposits. Archaeologists shall dry screen all materials using 1/8 inch mesh and identify and map all encountered features. A 2-liter soil sample shall be retained for flotation and paleobotanical analysis.<br>Determining the significance of Pre-Colonial resources shall be guided by CEQA. In the case of Pre-Colonial resources, however, the majority of significance assessments typically falls under Criterion D ([Section 15064.5 (a) (3) of the CEQA Guidelines]), where an archaeological site or resource will be considered significant, if it can be demonstrated that it has the potential to contribute important information pertinent to prehistory or history. Based on previous research in the area, the archaeological resources that will likely be encountered include midden sites, lithic scatters, burial complexes or cemeteries, residential sites, and isolates. | |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Cultural Resources (continued)** | | | |
| **Impact CUL-2 (continued)** | | **Mitigation Measure CUL-2a (continued)**<br>3. If and when any of these resources are encountered at the project site, they will first be assessed for integrity. In most cases, once a positive integrity has been established, the Pre-Colonial resource is considered significant, at least for evaluation purposes. This does not mean, however, that the resource is necessarily significant under National Register or California Register of Historic Places. Nor does it mean that one hundred percent of the site or resource will necessarily be sampled. Sampling strategies are typically employed at this juncture. Moreover, these methods need to be agreed upon by the archaeologist, property owner, City, and other specified parties in accordance with CEQA mitigation requirements and established practices.<br>4. Additional Archival Research. While historic documents are very useful for predicting what kinds of cultural properties may be encountered, it is rare that initial pre-field research covers all land uses within a specific area. Some activities are unreported or under-reported. For this reason, if currently unknown or unidentified cultural resources are identified during excavation, additional archival research may be conducted during and after the fieldwork phase when necessary to characterize the resources identified.<br>**B. Excavation and Evaluation of Historic Era (Spanish Colonial and American) Resources**<br>1. Mechanical Excavation/Monitoring. A trained archaeological monitor shall direct mechanical excavation of selected regions within the project site. Monitoring shall occur after demolition but before construction grading in specific areas within the project that are determined to be the most sensitive based on background research. Mechanical excavation shall be executed using a flat-bladed bucket and removing soils in increments of 2 to 5 inches, to the depth of historic cultural features, or native subsoil, whichever comes first.<br>2. Evaluation of Significance. If any unknown or unidentified historic era resources are discovered during mechanical excavation, all work within 50 feet of the find shall stop, and each resource shall be assessed in accordance with CEQA Guidelines Section 15064.5(c). Each archaeological resource shall be evaluated relative to a number of criteria. For historic era archaeological resources, these criteria include: (1) integrity of the resource, (2) historic context, in space and time, (3) data potential of the archaeological resource, and (4) relevance to proposed research themes. In each category, several subcategories are | |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Cultural Resources (continued)** | | | |
| **Impact CUL-2 (continued)** | | **Mitigation Measure CUL-2a (continued)**<br>given a point value. Each archaeological resource will be assigned a score within each of these categories by the project Archaeologist. The total points assigned will be a general estimate of the resource significance under CEQA Criteria A, B, and/or D. The higher the score, the more likely a resource would be determined to be significant/historic resource. If a resource has integrity, good archaeological data potential, and can contribute to research themes as set forth in the Treatment Plan, it will be determined significant under CEQA Criteria A, B, and D.<br>3. Additional Archival Research. Research in available Spanish Colonial Mission period documents may be warranted to determine the significance of currently unknown historic era resources encountered during project construction, in accordance with CEQA Guidelines Section 15064.5(c). Additional research may be warranted regarding the Early American settlement of the blocks. This may include investigation of parcel ownership records, personal histories of significant persons, or further investigation of population trends, such as neighborhood ethnicity, ethnic succession, labor patterns, or economic conditions.<br>**C. Preservation Plan or Data Recovery for Pre-Colonial and Historic Era Archaeological Resources**<br>**C.1. Preservation Plan for Pre-Colonial and Historic Era Archaeological Resources**<br>In portions of the project site where subsurface ground disturbance activities would not occur at a depth that could disturb the identified archaeological resource, the following conservation measures shall be implemented individually or in conjunction with each other to preserve the resource in place.<br>• Monitoring the resource to ensure that it is not inadvertently disturbed<br>• Covering the resource with water-permeable construction grade filter fabric<br>• Layering visible slurry sand over the resource<br>• Marking the feature with a permanent tag identifying the date, project and feature number<br>The GPS based location and shape of the resource shall be identified on project as-built drawings to insure that they would be known to facility managers and those managing the property for the life of the project. | |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Cultural Resources (continued)** | | | |
| **Impact CUL-2 (continued)** | | **Mitigation Measure CUL-2a (continued)**<br>**C.2. Data Recovery Plan for Pre-Colonial and Historic Era Archaeological Resources**<br>A. Data Recovery for Pre-Colonial Resources<br>Data recovery shall be completed in coordination with the remediation of any contaminated media to assure safe and appropriate management of recovered materials.<br>Midden and Residential Sites. These sites are anticipated to be the most structurally complex and have the greatest artifact diversity of all the resource types. Data recovery shall be conducted in contexts deemed significant and that have the potential to meet data requirements and research themes outlined in the Treatment Plan. The data recovery program may include any combination of hand excavation techniques in order to recover the appropriate amount of information to fully address research questions outlined in the Treatment Plan.<br>Lithic Scatters. Lithic scatters are usually limited to formed tools and tool manufacturing debris, or what is termed "debitage." Archaeological testing and data recovery methods will be implemented. Field documentation will include mapping, level record forms, wall profiles, and photography.<br>Isolated Finds. Isolated finds are three or fewer artifacts that occur within a restricted spatial context. Information potential is usually limited to location, material type, style, and function of the individual artifact. Isolated artifacts would be collected, and their location mapped using GPS or other mapping techniques. Artifacts would be processed in the laboratory along with other collected cultural materials.<br>Burial Complexes/Cemetery. Burial features can range in complexity from a simple isolated inhumation to more elaborate interments, or formal cemeteries, containing numerous bodies. Where appropriate, and based upon Native American consultation conducted under the authority of Senate Bill 18, these features shall be hand excavated for complete removal. This effort may include mapping, photography, removal, and packaging pending the decision of the Applicant and the Most Likely Descendent (MLD) for disposition of the remains. | |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Cultural Resources (continued)** | | | |
| **Impact CUL-2 (continued)** | | **Mitigation Measure CUL-2a (continued)**<br>B. Data Recovery for Historic Era Resources<br>Architectural Features. If architectural features such as structural remains such as foundations, wall footings, basement walls, and floor remnants are identified, they shall be recorded through photography, drawings, and GPS data. American period architectural features with corroborated historical data would not be mitigated beyond those documentary efforts. If determined to be of the Spanish-Mission Period, the feature shall be divided in half or into quadrants, and excavated by natural stratigraphy.<br>Infrastructure Features. If infrastructure features are identified, they shall be recorded through photography, drawings, and GPS data. Infrastructure features with corroborated historical data would not be further mitigated beyond those documentary efforts. However, diagnostic artifacts may be collected.<br>Agricultural Features. If agricultural features are identified, the feature shall be recorded through photography, drawings, and GPS data. Agricultural features that do not also contain a refuse component would not be mitigated beyond those documentary efforts. However, diagnostic artifacts may be collected.<br>Refuse Features. Refuse features are the most common expected historic property type, and include pits, privies, and wells. If encountered and determined to be significant, features shall be divided in half or into quadrants, and excavated by natural stratigraphy. The Field Director shall assign new context numbers as each stratigraphic layer and soil type is encountered. Descriptions ofeach context shall include Munsell color descriptions, texture, natural and cultural inclusions, depths below datum, thickness, and contacts between strata. Technicians shall take photographs at the start of each new context as it is encountered in the field.<br>Industrial Process Features. Industrial property types for the project site are expected to include features associated with 19th century warehouse facility and railroad-related structures. If industrial features are identified, and are determined to be in contaminated soils, photography and GPS data shall be collected at a safe distance. If determined to be non-hazardous, the feature shall be recoded through photography, drawings, and GPS data. Industrial features would not be mitigated beyond those documentary efforts. However, diagnostic artifacts may be collected. | |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Cultural Resources (continued)** | | | |
| **Impact CUL-2 (continued)** | | **Mitigation Measure CUL-2a (continued)**<br><br>Ceremonial. Ceremonial sites are where people intentionally buried their dead. Burial sites range from isolated burials in shallow holes to elaborate interments, such as whole cemeteries that may possess numerous bodies. Where appropriate and based upon Native American consultation conducted under the authority of Public Resources Code 5097.9, these features shall be hand excavated for complete removal. This effort may include mapping, photography, removal, and packaging pending the decision of the Applicant and the Most Likely Descendent (MLD) for disposition of the remains.<br><br>C. Laboratory Studies<br><br>All Pre-Colonial and Historic-Era archaeological resources and human remains shall be evaluated at a cultural resources laboratory. Resources recovered during excavation will be evaluated by following the protocol for washing, sorting, labeling, carbon dating, and other routine analyses. The resulting analytical information shall then be recorded in a computer database.<br><br>D. Curation<br><br>Upon completion of laboratory analysis, the Applicant or designee shall cause materials for curation to be placed in archival quality, long-term storage packing materials, including acid-free boxes, inert polyethylene plastic bags, and acid-free paper labels. Certain materials that do not have long-term research or interpretive value may be discarded after documentation. All curation methods shall meet current professional standards and will follow to the extent feasible the guidelines set forth in 36CFR79, Curation of Federally owned and Administered Collections. Documentary materials, such as progress reports, photographs, computer disk files, field notes, and other pertinent records must be permanently stored with the artifact collections. The land owner or designee shall make every reasonable effort to make the collection available to scholars and access shall be based on a written and accepted request.<br><br>E. Public Interpretation<br><br>The Secretary of the Interior's Standards for Archaeological Documentation encourages public interpretation of archaeological data where merited by the findings. There is a high probability for recovering resources within the project site that have the potential for expanding the public's understanding of the establishment of and life in Mission Santa Clara, the transformation of the mission to an important Mexican and later American settlement in the first years of | |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Cultural Resources (continued)** | | | |
| **Impact CUL-2 (continued)** | | **Mitigation Measure CUL-2a (continued)**<br>statehood, and the development of commercial agricultural interests in the second half of the nineteenth century.<br>The Applicant shall participate in the historical interpretation effort in one or more of the following ways.<br>• The Applicant shall make all curated materials, documents, maps, photographs, and reports available to historical societies, museums, and libraries for use in interpretive displays and programs.<br>• The Applicant will develop interpretive outdoor signage in public spaces at the project site, which will describe both the importance of the project parcel in the history of Santa Clara, and the findings of the archaeological data recovery program.<br>• The Applicant shall create similar interpretive displays in interior spaces in the project structures.<br>**Mitigation Measure CUL-2b: Discovery of Human Remains**<br>The treatment of human remains and of associated or unassociated funerary objects discovered during any soil-disturbing activity within the project site shall comply with applicable State laws. This shall include immediate notification of the Santa Clara County Medical Examiner and the City of Santa Clara.<br>In the event of the coroner's determination that the human remains are Native American, notification of the Native American Heritage Commission is required, who shall appoint a Most Likely Descendant (MLD) (Public Resources Code Section 5097.98).<br>The Applicant, archaeological consultant, and MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The California Public Resources Code allows 48 hours to reach agreement on these matters. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(b) which states that "the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance." | |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Cultural Resources (continued)** | | | |
| **Impact CUL-3** | | | |
| The proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geological feature. | Less than significant | No mitigation is required. | Less than significant |
| **Cumulative Impact CUL-1** | | | |
| The proposed project, in conjunction with other past, present and reasonably foreseeable future development, could result in significant cumulative cultural resource impacts. | Significant | No mitigation measures are feasible. | Significant and unavoidable |
| **Greenhouse Gas Emissions** | | | |
| **Impact GHG-1** | | | |
| The proposed project would generate greenhouse gas emissions, either directly or indirectly, that would not have a significant impact on the environment. | Less than significant | No mitigation is required. | Less than significant |
| **Impact GHG-2** | | | |
| Operation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. | Less than significant | No mitigation is required. | Less than significant |
| **Cumulative Impact GHG-1** | | | |
| The proposed project would not result in a significant cumulative GHG impact. | Less than significant | No mitigation is required. | Less than significant |
| **Hazards and Hazardous Materials** | | | |
| **Impact HAZ-1** | | | |
| The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. | Less than significant | No mitigation is required. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Hazards and Hazardous Materials (continued)** | | | |
| **Impact HAZ-2** | | **Mitigation Measure HAZ-2** | |
| The proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. | Potentially Significant | **Mitigation Measure HAZ-2a**: The project shall be developed under a project-specific site management plan or similar response plan approved by an agency of applicable jurisdiction, such as the RWQCB, that is protective of construction workers, the general public, the environment, and future site occupants from known and unknown environmental conditions that may be present at the site. The site management plan or similar response plan shall be designed and implemented under the oversight of an appropriately credentialed environmental professional (e.g., California licensed Professional Engineer), and shall require:<br>• implementation of worker health and safety plan (HASP) covering project construction workers and post-construction maintenance workers and groundskeepers who may be potentially exposed to hazardous materials. At a minimum, the HASP shall comply with state and federal worker safety regulations and be protective of worker health consistent with state and federal guidelines. The HASP shall include measures such as training, signage, and personal protective equipment;<br>• The site management plan or similar response plan shall include health based goals, consistent with state and federal standards and guidance documents (taking into account the presence of naturally occurring constituents). These goals shall be achieved through one or more of the of the following or similar site management strategies or approaches: (1) excavation or extraction of impacted soil or groundwater and disposal in accordance with applicable regulations; (2) implementation of effective engineering controls (e.g., barriers, caps, onsite encapsulation, mechanical ventilation); (3) onsite treatment of soil or groundwater; or (4) implementation of institutional controls (e.g., land use covenants prohibiting the use of groundwater);<br>• procedures to provide notice to the City of Santa Clara Fire Department for the removal of USTs and comply with the substantive City requirements should an UST or other underground structure be discovered on the project site, and address any associated soil impacts;<br>• procedures for evaluating and discharging dewatering water; and | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Hazards and Hazardous Materials (continued)** | | | |
| **Impact HAZ-2 (continued)** | | **Mitigation Measure HAZ-2 (continued)**<br>• provisions to visually inspect for staining soil underlying existing buildings for potential unknown residual environmental constituents, to stop work in the vicinity of such discovery until notice to the oversight agency and appropriately credentialed environmental professional has been provided, and direction for further action received.<br>**Mitigation Measure HAZ-2b**: Prior to dewatering, the project applicant will obtain and comply with all applicable permits and requirements prior to the discharge of any groundwater to surface waters (storm drains) or sanitary sewers. Requirements may include treatment, monitoring, and reporting to ensure that the discharge meets the appropriate water quality objectives for the receiving waters.<br>**Mitigation Measure HAZ-2c**: The metallic mass shall be removed under the jurisdiction of an appropriately credentialed environmental professional and agency of applicable jurisdiction, if the mass is determined to be an underground storage tank or other regulated subsurface structure. Previously unidentified soil contaminants associated with the mass, if any, shall be removed and properly disposed of at an appropriately permitted facility.<br>**Mitigation Measure HAZ 2d:** If evidence of contaminated soil and/or groundwater, such as discolored soil, odors or oil sheen, is encountered during excavation and/or grading for off-site utility improvements, the construction contractor shall stop work and immediately inform the Applicant and City staff. An appropriately credentialed (e.g., California licensed Professional Engineer) shall be contracted to conduct an on-site assessment. If the materials are determined to pose a risk to the public or construction workers, the environmental professional shall prepare and submit a site management plan to the appropriate agency and the project will comply with all federal, state, and local laws for the handling and disposal of contaminated soils and/or groundwater. | |
| **Impact HAZ-3** | | | |
| The proposed project would not expose future project site residents to substantial risk associated with hazardous materials storage and use on nearby properties. | Less than significant | No mitigation is required. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Hazards and Hazardous Materials (continued)** | | | |
| **Impact HAZ-4** | | | |
| The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. | Less than significant | No mitigation is required. | Less than significant |
| **Impact HAZ-5** | Potentially Significant | **Mitigation Measure HAZ-5** | Less than significant |
| The proposed project is not located on a list of hazardous material sites subject to corrective action compiled pursuant to Government Code Section 65962.5 (Cortese List), but is listed on a number of other government databases and contains residual contamination that exceeds environmental thresholds. | | Implement **Mitigation Measures HAZ-2a** and **HAZ-2c.** | |
| **Impact HAZ-6** | | | |
| The proposed project would not result in a safety hazard to aircraft due to building construction or result in a safety hazard due to aircraft for people living or working on the site. | Less than significant | No mitigation is required. | Less than significant |
| **Impact HAZ-7** | | | |
| The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan nor would the proposed project expose people or structures to a significant risk of loss, injury, or death involving wildland fires. | No impact | No mitigation is required. | No impact |
| **Cumulative Impact HAZ-1** | | | |
| The proposed project, in conjunction with other past, present and reasonably foreseeable future development, would not result in significant cumulative impacts related to hazardous materials. | Less than significant | No mitigation is required. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Land Use and Planning** | | | |
| **Impact LU-1** | | | |
| The proposed project would not physically divide an established community. | Less than significant | No mitigation is required. | Less than significant |
| **Impact LU-2** | | | |
| The proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. | Less than significant | No mitigation is required. | Less than significant |
| **Impact LU-3** | | | |
| The proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan. | No Impact | No mitigation is required. | No impact |
| **Cumulative Impact LU-1** | | | |
| The proposed project, in conjunction with other past, present and reasonably foreseeable future development, would not result in significant cumulative impacts related to land use and planning. | Less than significant | No mitigation is required. | Less than significant |
| **Noise** | | | |
| **Impact NOISE-1** | | **Mitigation Measure NOISE-1** | |
| Residential uses proposed at the project site would be exposed to exterior noise levels greater than those considered "compatible" per the City of Santa Clara General Plan, the State Building Code, and CALGreen. | Potentially Significant | **Mitigation Measure NOISE-1a:** A project-specific acoustical analysis shall be prepared by a qualified acoustical consultant as the project design is refined to determine specific noise attenuation improvements (e.g., STC ratings, exterior wall construction, treatment of facade openings) that must be included in the project to reduce interior noise levels to meet the City of Santa Clara and the State Building Code criterion of an Ldn of 45 dB or less for residential developments. The results of the analysis and recommended ratings for windows and doors shall be submitted to the City Building Official for approval and approved prior to issuance of building permits. Forced air mechanical ventilation, satisfactory to the City Building Official, shall be considered where windows must remain closed in order to achieve the interior noise criteria. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Noise (continued** | | | |
| **Impact NOISE-1 (continued)** | | **Mitigation Measure NOISE-1 (continued)**<br>**Mitigation Measure NOISE-1b:** In the event that outdoor-use spaces are not completely shielded from adjacent roadways by the proposed structure, a project-specific acoustical analysis shall be prepared by a qualified acoustical consultant as the project design is refined to determine specific noise attenuation improvements (e.g., reconfiguration, sounds walls, glass screen, or other equivalent measures) that must be included in the project to reduce exterior noise levels to meet the City outdoor noise guidelines for primary outdoor-use spaces. The results of the analysis and recommended noise attenuation improvements shall be submitted to the City Building Official for approval and approved prior to issuance of building permits. | |
| **Impact NOISE-2** | | | |
| Residential and commercial uses proposed at the project site would not be exposed to groundborne vibration levels from rail sources in excess of assessment guidelines set forth by Federal Transit Administration. | Less than significant | No mitigation is required. | Less than significant |
| **Impact NOISE-3** | | | |
| Project generated traffic would not substantially increase noise levels at noise-sensitive land uses. | Less than significant | No mitigation is required. | Less than significant |
| **Impact NOISE-4** | | **Mitigation Measure NOISE-4** | |
| Noise from heating, ventilating, and air conditioning equipment for the proposed buildings may exceed the City's daytime and nighttime noise standards at existing neighboring residential properties and the daytime and nighttime noise standards at existing neighboring commercial properties. | Potentially Significant | Mechanical equipment shall be selected and designed to reduce impacts on surrounding uses to meet the City's Noise Ordinance requirements. A qualified acoustical consultant shall be retained to review mechanical noise as these systems are developed to determine specific noise reduction measures necessary to reduce noise to comply with the City's Noise Ordinance. Noise reduction measures could include but are not limited to selection of equipment that emits low noise levels and/installation of noise barriers such as enclosures and parapet walls to cut the line of sight between the noise source and the nearest receptors. | Less than significant |
| **Impact NOISE-5** | | | |
| Noise generated by the proposed parking garages would not result in a substantial permanent increase in ambient noise levels at existing neighboring properties or at residential properties within the project site. | Less than significant | No mitigation is required. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Noise (continued)** | | | |
| **Impact NOISE-6** | | **Mitigation Measure NOISE-6** | |
| Noise generated by construction activities on the project site would substantially increase noise levels at residential and other noise sensitive land uses in the vicinity of the project site. | Potentially Significant | Construction-related activities shall be conducted in accordance with the following:<br>• Based on the final construction plan and equipment list, a site specific noise reduction plan shall be prepared by a qualified acoustical consultant, detailing locations of construction noise barriers and other site mitigation, to reduce noise levels at adjacent residential properties.<br>• Pursuant to the Santa Clara City Code, construction activities within 300 feet of any residence shall be limited to the hours of 7:00 AM to 6:00 PM, Monday through Friday and 9:00 AM to 6:00 PM on Saturday. No construction shall occur on Sundays and holidays.<br>• During construction, mufflers shall be provided for all heavy construction equipment and all stationary noise sources in accordance with the manufacturers' recommendations.<br>• Unnecessary idling of internal combustion engines shall be limited.<br>• Stationary noise sources and staging areas shall be located as far as is feasible from existing residences, or contractors shall be required to provide additional noise-reducing engine enclosures (with the goal of achieving approximately 10 dB(A) of reduction compared to uncontrolled engines). Locating stationary noise sources near existing roadways away from adjacent properties is recommended (i.e., at the southwest corner of the project site).<br>• Air compressors and pneumatic equipment shall be equipped with mufflers, and impact tools shall be equipped with shrouds or shields.<br>• If for construction purposes, locating stationary construction equipment near existing residential uses is required, an eight foot tall sound-rated fence should be erected between the equipment and the sensitive receptors. The fence should be located as close to the equipment as is feasible.<br>• Construction vehicle access routes shall be designed to minimize the impact on existing residences. The vehicle access route shall be along El Camino Real.<br>• A "construction liaison" shall be designated to ensure coordination between construction staff and neighboring properties to minimize disruptions due to construction noise. Occupants and property owners adjacent to the construction activity shall be notified in writing of the construction schedule and the contact information for the construction liaison. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Noise (continued)** | | | |
| **Impact NOISE-6 (continued)** | | **Mitigation Measure NOISE-6 (continued)**<br>• A qualified acoustical engineer shall be retained to address neighbor complaints, if they occur. If complaints occur, noise measurements shall be conducted, to determine if construction noise levels at adjacent property lines are within the standards. Short-term or long-term construction noise monitoring may also be utilized, at the discretion of the acoustical engineer, to diagnose complaints and determine if additional mitigation is required for certain phases of construction. | |
| **Impact NOISE-7** | | **Mitigation Measure NOISE-7** | |
| The construction of the project could expose persons or structures off of the project site to excessive groundborne vibration. | Potentially Significant | Construction-related activities shall be conducted in accordance with the following:<br>• Within 45 feet of any existing structure that is over 50 years old:<br>Compaction activities shall not be conducted using a vibratory roller. Within this area, compaction shall be performed using smaller hand tampers.<br>– Demolition, earth-moving and ground-impacting operations shall be phased so as not to occur at the same time.<br>– Construction and demolition activities shall not involve clam shell dropping operations.<br>• Pursuant to the Municipal Code, construction activities within 300 feet of any residence shall be limited to the hours of 7 AM to 6 PM, Monday through Friday and 9 AM to 6 PM on Saturday. No construction shall occur on Sundays and holidays.<br>• A "construction liaison" shall be designated to ensure coordination between construction staff and neighboring properties to minimize disruptions due to construction vibration. Occupants and property owners adjacent to construction activity shall be notified in writing of the construction schedule and the contact information for the construction liaison. Vibration generating activities shall be scheduled during less sensitive times of day (i.e., middle of the day) as feasible.<br>• A pre-construction survey of buildings within 45 feet of construction activities shall be performed, including those at 3430/3450 The Alameda and 610/640 Harrison Street to document existing conditions. Vibration monitoring shall be performed at the start of each major construction phase to confirm vibration levels at the building setback and to determine if further mitigation is needed. Buildings shall be monitored during construction for structural damage. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Noise (continued)** | | | |
| **Cumulative Impact NOISE-1** | | | |
| The proposed project, in conjunction with other past, present and reasonably foreseeable future development, would not result in a significant cumulative noise impact. | Less than significant | No mitigation is required. | Less than significant |
| **Public Services** | | | |
| **Impact PUB-1** | | | |
| The proposed project would not require the construction of new or physically altered fire facilities. | Less than significant | No mitigation is required. | Less than significant |
| **Impact PUB-2** | | | |
| The proposed project would not require the construction of new or physically altered police facilities. | Less than significant | No mitigation is required. | Less than significant |
| **Impact PUB-3** | | | |
| The proposed project would not require the construction of new or physically altered school facilities. | Less than significant | No mitigation is required. | Less than significant |
| **Impact PUB-4** | | | |
| The proposed project would not require the construction of new or physically altered library facilities. | Less than significant | No mitigation is required. | Less than significant |
| **Impact PUB-5** | | **Mitigation Measure PUB-5** | |
| Development of the proposed project would increase the use of existing neighborhood parks or other recreational facilities such that substantial physical deterioration of the facilities could occur or be accelerated. In addition, the demand created by the proposed project could require the construction of new or physically altered parks and recreation facilities. | Potentially Significant | The project applicant shall pay park in-lieu fees per City Code (Chapter 17.35) to satisfy the balance of the City's parkland dedication requirement. Any in-lieu fees imposed under this chapter shall be due and payable to the City prior to issuance of a building permit for each dwelling unit, consistent with City Code Chapter 17.35 and as specified in the Development Agreement for the project. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Public Services (continued)** | | | |
| **Cumulative Impact PUB-1** | | | |
| The proposed project, in conjunction with other closely related past, present and reasonably foreseeable future development, would not result in a significant cumulative impact on public services. | Less than significant | No mitigation is required. | Less than significant |
| **Transportation and Traffic** | | | |
| **Impact TRANS-1** | | | |
| Development of the proposed project would not conflict with the applicable standards adopted by the local jurisdictions to evaluate the performance of CMP and non-CMP intersections under existing conditions. | Less than significant | No mitigation is required. | Less than significant |
| **Impact TRANS-2** | | | |
| Development of the proposed project would conflict with the applicable standards adopted by the local jurisdictions to evaluate the performance of CMP and non-CMP intersections under Background (2020) conditions. | Significant | No mitigation is feasible. | Significant and unavoidable |
| **Impact TRANS-3** | | | |
| Development of the proposed project would not result in a hazard due to a design feature. | Less than significant | No mitigation is required. | Less than significant |
| **Impact TRANS-4** | | | |
| Development of the proposed project would not result in inadequate emergency access. | Less than significant | No mitigation is required. | Less than significant |
| **Impact TRANS-5** | | | |
| Development of the proposed project would not conflict with policies, programs or plans for alternate transportation. | Less than significant | No mitigation is required. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Transportation and Traffic (continued)** | | | |
| **Cumulative Impact TRANS-1** | | | |
| Development of the proposed project would conflict with the applicable standards adopted by the local jurisdictions to evaluate the performance of CMP and non-CMP intersections under Cumulative (2040) with project conditions. | Significant | No mitigation is feasible. | Significant and unavoidable |
| **Utilities and Service Systems** | | | |
| **Impact UTL-1** | | | |
| Development of the proposed project would not result in the need for new or expanded water supply entitlements. | Less than significant | No mitigation is required. | Less than significant |
| **Impact UTL-2** | | | |
| Development of the proposed project would require the construction of new or expanded water conveyance systems, the construction of which would not result in significant environmental effects. | Less than significant | No mitigation is required. | Less than significant |
| **Impact UTL-3** | | | |
| Development of the proposed project would not require the construction of new or expanded wastewater treatment facilities, nor would it result in a discharge that would cause the RWF to exceed the wastewater treatment requirements of the Regional Water Quality Control Board. | Less than significant | No mitigation is required. | Less than significant |
| **Impact UTL-4** | | | |
| Development of the proposed project would not require the construction of new or expanded wastewater conveyance systems. | Less than significant | No mitigation is required. | Less than significant |
| **Impact UTL-5** | | | |
| Development of the proposed project would require the construction of new storm water drainage facilities on site, the construction of which would not result in significant environmental effects. | Less than significant | No mitigation is required. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Utilities and Service Systems (continued)** | | | |
| **Impact UTL-6** | | | |
| Development of the proposed project would generate solid waste, but not enough to require the expansion of the permitted capacity of a regional landfill. | Less than significant | No mitigation is required. | Less than significant |
| **Impact UTL-7** | | | |
| Development of the proposed project would comply with all applicable federal, State, and local statutes and regulations related to solid waste. | Less than significant | No mitigation is required. | Less than significant |
| **Impact UTL-8** | | | |
| The proposed project would comply with Title 24 and not result in the excessive consumption of energy resources that could not be accommodated by the long-term electricity supply and distribution system of SVP or the long-term natural gas supply and distribution system of PG&E. | Less than significant | No mitigation is required. | Less than significant |
| **Impact UTL-9** | | | |
| The proposed project would not involve a wasteful use of energy as related to project construction activities or transportation energy use. | Less than significant | No mitigation is required. | Less than significant |
| **Cumulative Impact UTL-1** | | | |
| The proposed project, in conjunction with other past, present and reasonably foreseeable future development, would not result in a significant cumulative impact on water supply, wastewater, solid waste, electricity, and natural gas. | Less than significant | No mitigation is required. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Other Resource Topics** | | | |
| **Impact AES-1** | | | |
| The proposed project would have no effect on a scenic vista, or substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. | N/A[1] | N/A | N/A |
| **Impact AES-2** | | | |
| The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. | N/A | N/A | N/A |
| **Impact AES-3** | | | |
| The proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. | N/A | N/A | N/A |
| **Impact AG-1** | | | |
| The proposed project would not convert farmland to non-agricultural use, conflict with existing zoning for agricultural use or a Williamson Act contract, or conflict with existing zoning for, or cause rezoning of, forest land or timberland. In addition, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use, or involve other changes in the existing environment that could result in conversion of Farmland to non-agricultural use. | No impact | No mitigation is required. | No impact |

1 The proposed project is exempt from analysis of aesthetic impacts under Senate Bill 743, signed in to effect in September 2013. Refer to **Section 4.10** for further information regarding this provision.

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Other Resource Topics (continued)** | | | |
| **Impact BIO-1** | | **Mitigation Measure BIO-1** | |
| The proposed project could have an adverse effect on special-status bird and non-special status bird species during the nesting season. | Potentially significant | For the protection of special status bird species and birds species protected by the Migratory Bird Treaty Act and Fish and Game Codes, project activities shall occur during the non-breeding bird season to the extent feasible (September 1 – through January 31). However, if vegetation removal, grading, demolition of structures, or initial ground-disturbing activities must occur during the breeding season (February 1 through August 31), a survey for active bird nests shall be conducted by a qualified biologist no more than 14 days prior to the start of these activities. The survey shall be conducted in a sufficient area around the work site to identify the location and status of any nests that could potentially be affected by project activities.<br>If active nests of protected species are found within project impact areas or close enough to these areas to affect breeding success, a work exclusion zone shall be established around each nest by a qualified biologist. Established exclusion zones shall remain in place until all young in the nest have fledged or the nest otherwise becomes inactive (e.g., due to predation).<br>Appropriate exclusion zone sizes vary dependent upon bird species, nest location, existing visual buffers and ambient sound levels, and other factors; an exclusion zone radius may be as small as 50 feet (for common, disturbance-adapted species) or as large as 250 feet or more for raptors.<br>Exclusion zone size may also be reduced from established levels if supported with nest monitoring by a qualified biologist indicating that work activities outside the reduced radius are not adversely impacting the nest. | Less than significant |
| **Impact BIO-2** | | | |
| The proposed project would not affect any riparian habitat, sensitive natural community, or wetlands nor interfere with the movement of any wildlife species. | No impact | No mitigation is required. | No impact |
| **Impact BIO-3** | | | |
| The proposed project would not conflict with applicable policies protecting biological resources. | Less than significant | No mitigation is required. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Other Resource Topics (continued)** | | | |
| **Impact BIO-4** | | | |
| The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan. | No impact | No mitigation is required. | No impact |
| **Impact GEO-1** | | | |
| The proposed project would not expose people or structures to substantial adverse effects related to fault rupture, seismic ground shaking, and/or seismic-related ground failure. | Less than significant | No mitigation is required. | Less than significant |
| **Impact GEO-2** | | | |
| The proposed project would not result in substantial soil erosion nor be located on unstable soil. Finally, the proposed project would not require the use of septic tanks or alternative wastewater disposal systems. | Less than significant | No mitigation is required. | Less than significant |
| **Impact HYD-1** | | **Mitigation Measure HYD-1** | |
| The proposed project could result in the discharge of storm water that would violate any water quality standards or otherwise substantially degrade water quality. | Potentially Significant | Implement **Mitigation Measure HAZ-2b.** | Less than significant |
| **Impact HYD-2** | | | |
| The proposed project would not substantially deplete groundwater supplies, interfere substantially with groundwater recharge, or affect groundwater quality. | Less than Significant | No mitigation is required. | Less than significant |

| Environmental Topic and Impact | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Other Resource Topics (continued)** | | | |
| **Impact HYD-3** | | | |
| The proposed project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion, siltation, or flooding on-site or off-site. In addition, the project would not result in runoff that would exceed the capacity of existing or planned stormwater drainage systems. | Less than significant | No mitigation is required. | Less than significant |
| **Impact HYD-4** | | | |
| The proposed project would not place housing or structures within a 100-year flood hazard area. | No impact | No mitigation is required. | No impact |
| **Impact HYD-5** | | | |
| The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam or inundation by seiche, tsunami, or mudflow. | No impact | No mitigation is required. | No impact |
| **Impact MR-1** | | | |
| The proposed project would not result in the loss of availability of a known mineral resource or in the loss of availability of a locally important mineral resource recovery site. | No impact | No mitigation is required. | No impact |
| **Impact PH-1** | | | |
| The proposed project would not induce substantial population growth in the area, either directly or indirectly, nor would it displace substantial numbers of existing housing or people necessitating the construction of replacement housing elsewhere. | Less than significant | No mitigation is required. | Less than significant |

**Table 2.0-2**
**Summary Comparison of Project Alternatives**

| | Project Impact | Proposed Project (Before and After Mitigation) | No Project Alternative | Planned Development Alternative | Reduced Residential Density Alternative |
|---|---|---|---|---|---|
| AIR-1 | Construction activities associated with the proposed project would not result in a violation of an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment under an applicable national or state ambient air quality standard (including resulting in emissions which exceed quantitative thresholds for ozone precursors), but would result in substantial dust emissions. | S/LTS | NE | S-/LTS | S-/LTS |
| AIR-4 | Project construction activities and operations would expose existing or future sensitive receptors to substantial pollutant concentrations. | S/LTS | NE | S-/LTS | S-/LTS |
| AIR-5 | Project operation would expose project sensitive receptors to substantial pollutant concentrations. | S/LTS | NE | S-/LTS | S-/LTS |
| BIO-1 | The proposed project could have an adverse effect on special-status bird and non-special status bird species during the nesting season. | PS/LTS | NE | PS=/LTS | PS=/LTS |
| CUL-1 | The proposed project would potentially cause a substantial adverse change in the significance of a historic architectural resource as defined in CEQA Guidelines §15064.5. | S/SU | NE | S=/SU | S=/SU |
| CUL-2 | The proposed project would potentially cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5, and would disturb any human remains, including those interred outside of formal cemeteries. | PS/LTS | NE | PS=/LTS | PS=/LTS |
| CUM CUL-1 | The proposed project, in conjunction with other past, present and reasonably foreseeable future development, could result in significant cumulative cultural resource impacts. | S/SU | NE | S=/SU | S=/SU |

| | Project Impact | Proposed Project (Before and After Mitigation) | No Project Alternative | Planned Development Alternative | Reduced Residential Density Alternative |
|---|---|---|---|---|---|
| HAZ-2 | The proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. | PS/LTS | NE | PS=/LTS | PS=/LTS |
| HAZ-5 | The proposed project is not located on a list of hazardous material sites subject to corrective action compiled pursuant to Government Code Section 65962.5 (Cortese List), but is listed on a number of other government databases and contains residual contamination that exceeds environmental thresholds. | PS/LTS | NE | PS=/LTS | PS=/LTS |
| HYD-1 | The proposed project could result in the discharge of storm water that would violate any water quality standards or otherwise substantially degrade water quality. | PS/LTS | NE | PS=/LTS | PS=/LTS |
| NOISE-1 | Residential uses proposed at the project site would be exposed to exterior noise levels greater than those considered "compatible" per the City of Santa Clara General Plan, the State Building Code, and CALGreen. | PS/LTS | NE | PS-/LTS | PS-/LTS |
| NOISE-4 | Noise from heating, ventilating, and air conditioning equipment for the proposed buildings may exceed the City's daytime and nighttime noise standards at existing neighboring residential properties and the daytime and nighttime noise standards at existing neighboring commercial properties. | PS/LTS | NE | PS-/LTS | PS-/LTS |
| NOISE-6 | Noise generated by construction activities on the project site would substantially increase noise levels at residential and other noise sensitive land uses in the vicinity of the project site. | PS/LTS | NE | PS-/LTS | PS-/LTS |
| NOISE-7 | The construction of the project could expose persons and structures off of the project site to excessive groundborne vibration. | PS/LTS | NE | PS-/LTS | PS-/LTS |
| PUB-5 | Development of the proposed project would increase the use of existing neighborhood parks or other recreational facilities such that substantial physical deterioration of the facilities could occur or be accelerated. In addition, the demand created by the proposed project could require the construction of new or physically altered parks and recreation facilities. | PS/LTS | NE | PS-/LTS | PS-/LTS |

| | Project Impact | Proposed Project (Before and After Mitigation) | No Project Alternative | Planned Development Alternative | Reduced Residential Density Alternative |
|---|---|---|---|---|---|
| TRANS-2 | Development of the proposed project would conflict with the applicable standards adopted by the local jurisdictions to evaluate the performance of CMP and non-CMP intersections under Background (2020) conditions. | S/SU | NE | LTS | S-/SU |
| CUM TRANS-1 | Development of the proposed project would conflict with the applicable standards adopted by the local jurisdictions to evaluate the performance of CMP and non-CMP intersections under Cumulative (2040) with project conditions. | S/SU | NE | LTS | S-/SU |

*KEY*
*SU Significant and unavoidable*
*PS Potentially significant impact*
*LTS Less than significant impact*
*NE No Effect*
*= Impact similar to proposed project*
*- Impact less than proposed project*
*+ Impact greater than proposed project*

# 3.0 PROJECT DESCRIPTION

## 3.1 INTRODUCTION

The section presents the details of the Mission Town Center project in terms of the project objectives, the project setting, project characteristics, and construction schedule and activities. The project applicant, Irvine Company (applicant) has applied to the City of Santa Clara for approval of the Mission Town Center project and related entitlements (proposed project). The approximately 5.7-acre project site, located at the intersection of Benton Street and El Camino Real in the southeastern portion of the City of Santa Clara, is presently occupied by a mix of land uses, including light industrial uses such as a self-storage complex and an auto repair shop, single and multifamily residential uses, office, and a restaurant.

The applicant proposes to demolish the existing buildings on the project site and construct a mixed-use residential development project that would consist of 385 apartment units, approximately 10,000 square feet of conditioned amenity and leasing space, three distinct private open space areas, and about 27,000 square feet of ground floor retail. The residential portion of the proposed project would have an overall density of approximately 67 units per acre.

## 3.2 PROJECT APPROVALS

The project site is currently designated Santa Clara Station Area in the Santa Clara General Plan. Specifically, the portion of the project site located along El Camino Real is designated Santa Clara Station High Density Residential (37-50 dwelling unit/acre [du/ac]) while the remainder of the site is designated Santa Clara Station Low Density Residential (8-18 du/ac). As the proposed project will have a density of approximately 67 du/ac and will include retail use, the Irvine Company has applied to the City for a General Plan Amendment (GPA) to change the land use designations on the project site to Very High Density Residential (51-90 du/ac). The following text is proposed to be added to Section 5.2.2 of the General Plan defining this land use designation;

> *Very High Density Residential*
>
> *This classification is intended for residential development at densities ranging from 51 to 90 units per gross acre in the Santa Clara Station Focus Area. This density range is typically located in areas adjacent to major transportation corridors, transit mixed uses. Very High Density Residential development has an urban feel, with mid-rise buildings, structured or below-grade parking, and shared open space.*

In addition, an amendment to Section 5.4.3 of the General Plan is proposed to include the following policy allowing limited neighborhood commercial within the Santa Clara Station Very High Density Residential land use designation consistent with Figure 5.4-5 of the General Plan:

> *5.4.3-P21* *Allow active retail uses at ground level on parcels designated Very High Density Residential within the Santa Clara Station Focus Area.*

The project site is currently zoned ML-Light Industrial; R1-6L-Single Family; R2-7L-Duplex; R3-25D-Moderate-Density Multiple Dwelling; and CT-Thoroughfare Commercial. The Irvine Company has requested a rezone of the project site to PD-Planned Development.

The proposed project will require the vacation of portions of Fremont Street and Sherman Street on the project site. The applicant has requested this action from the City.

## 3.3 PROJECT OBJECTIVES

The City of Santa Clara has developed the following primary objectives for the proposed project to satisfy the requirements of the *California Environmental Quality Act (CEQA) Guidelines* Section 15124 (b).

- Provide development consistent with the City's long-term development goals.
- Create a mixed-use development of a scale and character that complements and is supportive of the surrounding uses.
- Create a mixed-use development that maximizes density with accessibility to alternate transportation modes, and integrates pedestrian, bicycle, transit, open space and outdoor uses to encourage active centers.
- Implement smart growth principles by redeveloping underutilized properties with higher density housing projects along established transit corridors.

The applicant's project objectives are to develop a well-designed, economically feasible residential community that consists of a variety of residential products and unit types, and incorporates smart growth elements such as redevelopment of underutilized properties and implementation of higher-density development along established transit corridors. The applicant's key objectives for the proposed project are to:

- Develop a well-designed, economically feasible residential community that consists of a variety of residential products and unit types;
- Develop a community that incorporates smart-growth elements such as redevelopment of underutilized properties and implementation of higher-density development along established transit corridors;

- Create a sustainable infill mixed use, residential project that complements adjacent residential neighborhoods to the west and south and nearby Santa Clara University;
- Attain a project designed to a minimum LEED Gold or greater equivalent standard; and
- Improve the jobs/housing balance within the City.

## 3.4 PROJECT SETTING

The City of Santa Clara is located in the Santa Clara Valley near the southwestern end of San Francisco Bay (see **Figure 3.0-1, Project Location**). The Santa Clara Valley is bounded on the west by the Santa Cruz Mountains and on the east by the Diablo Range. The City of Santa Clara is bordered by San Jose to the north, east, and south, and Sunnyvale and Cupertino to the west.

The project site is located in the southeastern portion of the City at the corner of Benton Street and El Camino Real. Specifically, the project site is bound by Benton Street to the south, commercial and residential development along Harrison Street to the north, The Alameda to the west, and El Camino Real to the east. Regional access to the project site is provided by Interstate 880 (I-880) to the southeast via The Alameda and El Camino Real. Direct access to the site is provided by Benton Street and El Camino Real. Secondary access to the project site is provided by The Alameda and Harrison Street.

The area surrounding the project site is fully developed and consists mainly of residential and commercial uses. A medical office building and single-family residential uses along Harrison Street are located directly adjacent to the north/northwest. In addition, commercial uses are located to north across Harrison Street. An apartment complex and the Santa Clara Police Department headquarters are located to the east across El Camino Real. Single-family residential uses are located to the south across Benton Street while single-family residential uses, a residence hall, and an auto repair shop are located to the east across The Alameda. Other major uses in the area include Santa Clara University, located one block to the south, and the Santa Clara Transit Center which is located approximately 500 feet to the southeast.

**SOURCE:** Google Inc., March 2015, Imagery Date February 2014

FIGURE **3.0-1**

Project Location

1176.003•03/15

### 3.4.1 Existing Site Conditions

The project site consists of 12 parcels. The address, assessor's parcel number, and existing land use for each parcel are provided in **Table 3.0-1, Existing Site Conditions**. The project site is developed with approximately 101,207 gross square feet (gsf) of commercial and light industrial space, 10 residential units that total about 9,426 gsf, roadways (Fremont and Sherman Streets), site serving infrastructure, streets, and landscaping. The residential and commercial parcels are flanked by mature trees and landscaping consisting of irrigated lawn, ground cover, and shrubs. Approximately 87 percent (5.0 acres) of the project site is currently under impervious surfaces (buildings, roadways, sidewalks, and parking lots). The remaining 13 percent (0.7 acre) of the site is pervious and landscaped with trees and shrubs. There are 26 trees on the project site.

**Table 3.0-1**
**Existing Site Conditions**

| Address | Assessor's Parcel Number | Land Use |
|---|---|---|
| 3410 The Alameda | 230-07-013 | Residential |
| 3390 The Alameda | 230-07-010 | Commercial |
| 3370 The Alameda | 230-07-009 | Commercial |
| 3360 The Alameda | 230-07-059 | Commercial |
| 1250 Sherman Street | 230-07-029 | Light Industrial |
| -- | 230-07-060 | Vacant |
| 1188 Sherman Street | 230-07-002 | Residential |
| 602 Fremont Street | 230-07-038 | Light Industrial |
| 645 Benton Street | 230-07-004 | Residential |
| 625 Benton Street | 230-07-031 | Residential |
| 611 Benton Street | 230-07-034 | Residential |
| 575 Benton Street | 230-07-053 | Light Industrial |

*Source: Impact Sciences, 2015*

The site is relatively flat with ground surface elevations ranging from 67 to 72 feet. According to the geotechnical investigation prepared for the site, the project site is underlain by alluvial soils, and depth to groundwater historically ranges between 16.5 and 32 feet below ground surface. Residual petroleum hydrocarbons remain in soil and groundwater at the site as a result of former underground fuel storage tanks. In addition, soil, soil vapor, and groundwater at the site are impacted from past industrial and commercial activities.

## 3.5 PROJECT CHARACTERISTICS

### 3.5.1 Proposed Land Uses

The proposed project would develop a mix of residential and retail uses on the approximately 5.7-acre site. As part of the proposed project, the existing buildings would be demolished and the site would be developed with 385 rental apartment units, retail space, parking, site serving infrastructure, and landscaping. The proposed site plan is shown in **Figure 3.0-2, Site Plan**. **Table 3.0-2, Proposed Building Space**, presents a summary of the various types of land uses and building spaces that would be constructed on the project site as part of the proposed project. A brief description of the proposed uses follows the table.

**Table 3.0-2**
**Proposed Building Space**

| Proposed Land Use | Space (gsf) |
|---|---|
| Residential | 385,650 |
| Retail | 27,000 |
| Amenity | 6,000 |
| Leasing | 4,000 |
| Parking (garage) | 287,050 |

*Source: Irvine Company, 2015*
*Notes: gsf= gross square feet*

#### *Apartment Units*

The proposed project would develop 385 apartment units at an overall density of approximately 67 dwelling units per acre. The proposed apartments would include one-bedroom and two-bedroom units ranging in size from approximately 672 to 1,358 gsf. The proposed apartment mix includes 170 one-bedroom units, which would account for 44 percent of the units; 46 one-bedroom + den units, which would account for 12 percent of the units; and 169 two-bedroom units, which would account for 44 percent of the units. The residential unit mix is summarized in **Table 3.0-3, Residential Unit Mix Summary**.

**Table 3.0-3**
**Residential Unit Mix Summary**

| Housing Type | Number of Units | Unit Size (nsf) | Total (nsf) | Mix |
|---|---|---|---|---|
| One-Bedroom Units | 170 | 672 to 975 | 121,088 | 44% |
| One-Bedroom + Den Units | 46 | 890 to 1,224 | 43,979 | 12% |
| Two-Bedroom Units | 169 | 1,077 to 1,358 | 184,519 | 44% |
| **Totals** | **385** | **--** | **349,586** | **--** |

*Source: Irvine Company, 2015*
*Notes: ns f= net square feet*

## *Retail Space*

The proposed project would include approximately 27,000 gsf of retail uses. The retail uses would be located at street level along Benton Street and at the corner of Benton Street and El Camino Real.

## *Amenity Space*

The proposed project would include approximately 10,000 gsf of conditioned amenity and leasing space, which would be located along the Benton Street frontage. This would include the leasing office, clubrooms, and a fitness center.

## *Open Space and Courtyards*

The proposed project includes three courtyards, landscaped walkways, and paseos. Outdoor seating areas would also be developed at the corner of Benton Street and El Camino Real and at the corner of Harrison Street and El Camino Real. A description of each courtyard is provided below.

### Rec Area (Pool) Courtyard

This courtyard would contain a lap swimming pool and space and seating areas for small group gatherings. In addition, an outdoor entertainment space would be provided.

### Northern Courtyard No. 1

The entry way for this courtyard would be provided along The Alameda. This courtyard would provide game tables (foosball or ping pong) and soft seating/lounge areas for small group gatherings. An outdoor entertainment space would also be provided.

**SOURCE:** EPT Design, October 2015

FIGURE **3.0-2**

Site Plan

1176.003•10/15

**Northern Courtyard No. 2**

The entry way for this courtyard would be provided along El Camino Real. This courtyard would provide game tables (foosball or ping pong), soft seating/lounge areas for small group gatherings, and a small fireplace with built-in sofa/soft seating. An outdoor entertainment space would also be provided.

### 3.5.2 Building Design

The proposed project would consist of a three to five-story structure that would range in height from approximately 38 to 78 feet. Parking would be provided in a six-story parking structure with five levels above-grade and one level of below-grade parking. The parking structure would be located in the center of the project site and wrapped by the proposed residential and retail uses.

The proposed structure is divided in four distinct districts with each district having a unique architectural style. Each of the four architectural styles is described in more detail below

The architecture near the corner of Benton Street and The Alameda will be derived from Mission Revival, an architectural style prevalent in the City of Santa Clara and that offers an architectural link to the University. Incorporated into the design is an arching arcade at the street level with a traditional tile roof and exposed eaves which is a typical element of this style. The fenestration is arranged as a series of punched opening held together by vertical and horizontal reveal lines emphasizing the static solid appearance of this style. Curvilinear wrought iron railing and low roof arcade are introduced within the human scale and to add detail while minimizing the building mass.

The architecture at the intersection of El Camino Real and Benton Street will be derived from Mediterranean Revival which is another style seen frequently in Santa Clara. Flat roof tiles are proposed with no eaves. The fenestrations are vertically oriented with narrow openings and lower sill heights. Additionally, stucco reveals are vertically accented and tie together the windows accentuating vertical patterning of the main architectural style. In contrast to the Mission Revival, architecture railings are composed of clean vertical pickets and the arcade at the ground level is squared with steel canopies. At the corner, a strong crescent shape is purposefully employed to hold the edge of the proposed public plaza while creating a gateway element to Mission Town Center.

In contrast to the semi-formal Mission and formal Mediterranean Revival styles, the informal Spanish Monterey architectural style will be used along Benton Street and El Camino Real to create variety of scale and modulation. Incorporated in this design are a variety of deck and railing articulations and window patterning, loosely arranged, further promoting the informal nature of this architecture. The roofs are gabled with exposed rafter tails to further delineate the fineness of scale of the design. Additional character elements such as canvas awnings, decorative panel detailing, and cantilevered

balconies further promote the human scale at the ground level of the building. Stucco reveals are also horizontally oriented as a complement to the scale of the surrounding buildings.

Finally, serving as a transition to the residential neighborhood to the northwest, a section of three and four-story housing located on the project site at the north end of The Alameda is articulated in a Craftsman style. The combination of the lower building scale and detailed character of the Craftsman style provides a contextual response that reduces the scale of the proposed design as well as reflecting the random pattern of development in the existing neighborhood. Gated stoop unit entries and courtyard entry portals further express human scale at the sidewalk level of the building. The character of the style is communicated in classic gable roofs, infilled with wood slats and supported by tapered columns, and featuring broad eave overhangs. Tall vertically-oriented windows are highlighted with decorative muntin patterning.

**Figure 3.0-3, The Alameda Elevation**, shows the exterior elevation along the Alameda, **Figure 3.0-4, Benton Street Elevation**, shows the exterior elevation along Benton Street, **Figure 3.0-5, El Camino Real Elevation**, shows the exterior elevation along El Camino Real, and **Figure 3.0-6, North Elevation**, shows the exterior elevation along the northern boundary of the project site.

**Figure 3.0-7, Benton Street Perspective**, shows the perspective view of the proposed building from the intersection of The Alameda and Benton Street, **Figure 3.0-8, El Camino Real/Benton Street Corner Perspective**, shows the perspective view of the proposed building from the intersection of El Camino Real and Benton Street, **Figure 3.0-9, El Camino Real Perspective**, shows the perspective view of the proposed building along El Camino Real, and F**igure 3.0-10, The Alameda Perspective**, shows the perspective view of the proposed building along The Alameda.

## 3.6 CIRCULATION AND PARKING

**Figure 3.0-11, Vehicular Circulation**, shows the conceptual vehicular circulation for the project site. Vehicular access to the site would be provided from Benton Street and El Camino Real. Both access points would provide access to the parking garage. The western most section of Fremont Street and the northern section of Sherman Street currently intersect on the project site. The sections of these two streets on the project site would be vacated and would be integrated into the project. Because these street sections are not through streets and do not intersect El Camino Real, their vacation will not alter vehicular circulation patterns in the project area.

The proposed project includes a number of street improvements, including an upgraded signal at the intersection of El Camino Real and Benton Street that would improve the pedestrian movement across El Camino Real and the widening of sidewalks along The Alameda, El Camino Real and Benton Street that would increase pedestrian activity along the project edge.

**Table 3.0-4, Proposed Parking**, shows the number of parking spaces and configuration of parking proposed at the project site. Resident parking would be provided in the upper four levels of the parking garage. Retail parking would be provided on the lower two levels of the parking garage.

The total garage area would be approximately 287,050 gsf. The parking garage would provide a total of 839 parking spaces, including 674 spaces for the residential component of the project and 165 spaces for the retail component of the project. In addition, the proposed project includes 129 Class I bicycle locker spaces and 26 Class II bicycle racks for use by the residents, four Class I bicycle locker spaces for use by retail employees, and six Class II bicycle racks for use by retail patrons.

**Table 3.0-4**
**Proposed Parking**

| Parking Type | Number of Units | Rate | Required Parking | Parking Provided |
|---|---|---|---|---|
| Residential | | | | |
| One-Bedroom | 170 | 1.5 | 255 | 255 |
| One-Bedroom + Den | 46 | 1.5 | 69 | 69 |
| Two-Bedroom | 169 | 2.0 | 338 | 338 |
| Leasing | -- | -- | -- | 12 |
| *Residential Subtotal* | | | *662* | *674** |
| Retail | | | | |
| Retail (Indoor) | -- | 5/1,000 sf | 135 | 135 |
| Retail (Outdoor Seating) | -- | 1/3 seats | 30 | 30 |
| *Retail Subtotal* | | | *165* | *165* |
| **TOTAL** | **385** | **--** | **827** | **839** |

*Source: Irvine Company, 2015*
*sf = square feet.*
** Includes 10 percent visitor parking (385 units x 10 percent = 38)*

NOT TO SCALE

**SOURCE:** MVE Partners, October 2015

FIGURE **3.0-3**

The Alameda Elevation

1176.003•10/15

NOT TO SCALE

**SOURCE:** MVE Partners, October 2015

FIGURE **3.0-4**

Benton Street Elevation

1176.003•10/15

NOT TO SCALE

**SOURCE:** MVE Partners, October 2015

FIGURE **3.0-5**

El Camino Real Elevation

1176.003•10/15

NOT TO SCALE

**SOURCE:** MVE Partners, October 2015

FIGURE **3.0-6**

North Elevation

1176.003•10/15

NOT TO SCALE

**SOURCE:** Irvine Company, October 2015

FIGURE **3.0-7**

Benton Street Perspective

1176.003•10/15

NOT TO SCALE

**SOURCE:** Irvine Company, October 2015

FIGURE **3.0-8**

El Camino Real / Benton Street Corner Perspective

1176.003•10/15

NOT TO SCALE

**SOURCE:** Irvine Company, October 2015

FIGURE **3.0-9**

El Camino Real Perspective

1176.003•10/15

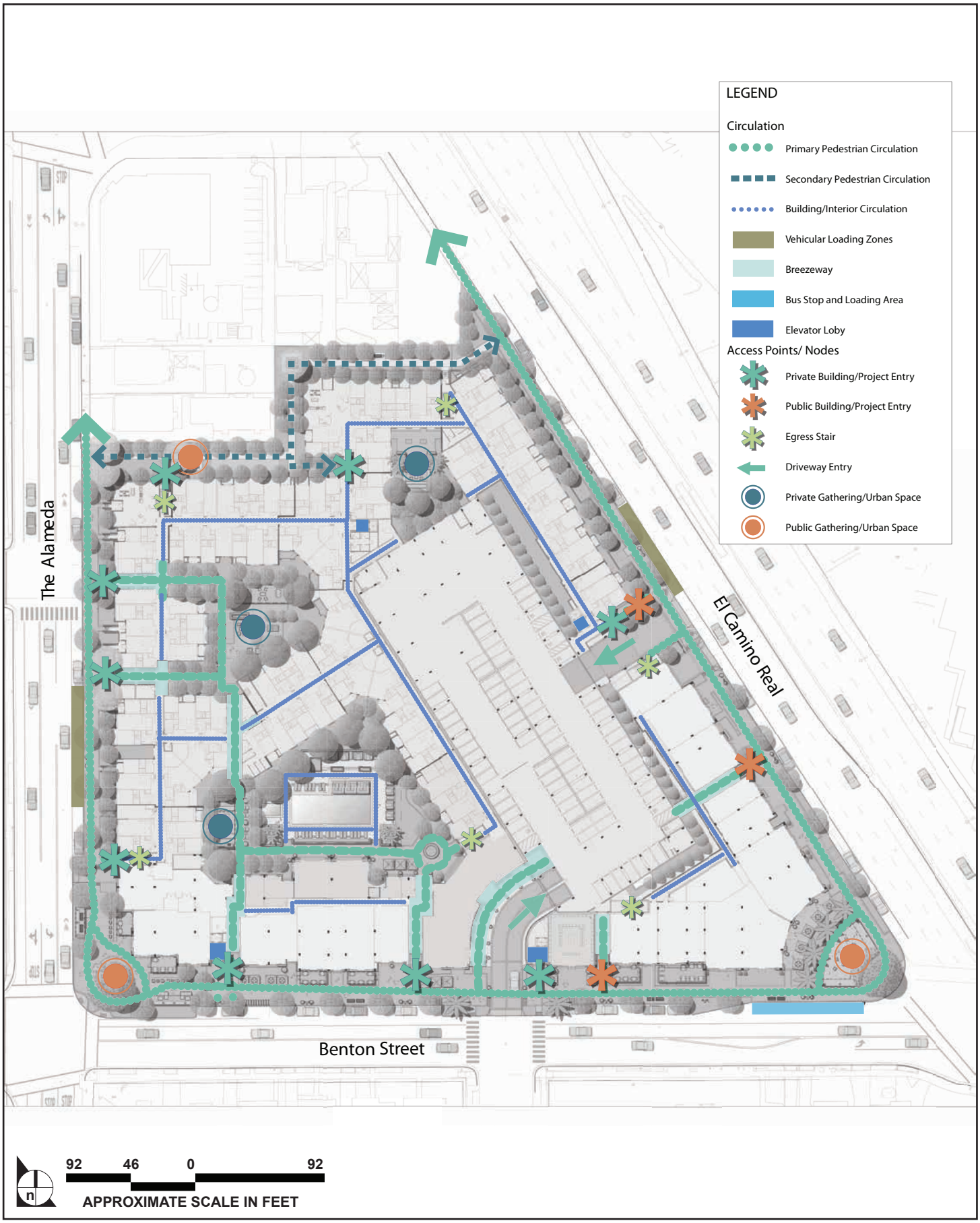
NOT TO SCALE

**SOURCE:** Irvine Company, October 2015

FIGURE **3.0-10**

The Alameda Perspective

1176.003•10/15




**SOURCE:** EPT Design, October 2015

FIGURE **3.0-11**

Vehicular Circulation

1176.003•10/15

## 3.7 LANDSCAPING

**Figure 3.0-2** shows the proposed landscaping plan for the project site. This plan includes the planting of new trees and shrubs throughout the site. There are 26 existing trees on the site. The City of Santa Clara General Plan Policy 5.10.1-P3 requires "preservation of all City-designated heritage trees listed in the Heritage Tree Appendix 8.10 of the General Plan." In addition, General Plan Policy 5.10-1-P4 provides the criteria for the identification of trees that the City seeks to protect. This policy states "Protect all healthy cedars, redwoods, oaks, olives, bay laurel, and pepper trees of any size, and all other trees over 36 inches in circumference measured from 48 inches above grade on private and public property as well as in the public right-of-way." Of the 26 existing trees on the site, none is listed as a Heritage Tree in the General Plan, and none of the trees are cedars, redwoods, oaks, olives, bay laurel or pepper trees, the species specifically identified for protection in General Plan Policy 5.10-1-P4. However, 11 trees on the project site meet both the trunk circumference and health criteria in General Plan Policy 5.10-1-P4 and thus are protected.

The applicant would be required to comply with General Plan Policy 5.3.1-P10, which requires that new development "provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the project."

In order to compensate for the protected trees removed at a 2:1 ratio according to General Plan Policy 5.3.1-P10, 52 replacement trees would be required. The proposed landscaping plan calls for installing approximately 256 trees which would exceed the requirements of the General Plan policy. The proposed nursery stock size would be 24- and 36-inch boxes. The proposed landscaping plan for the site depicts three general areas of tree planting: (1) along The Alameda, Benton Street, and Monroe Street; (2) the outdoor area at the corner of Benton Street and El Camino Real; and (3) the courtyards. To the extent feasible, drought-resistant and low-water-use plantings would be installed on the project site. To minimize air pollutant emissions, electrical outlets would be installed in the exterior areas of the development so that electric equipment can be used for landscape maintenance throughout the development.

## 3.8 UTILITIES

### 3.8.1 Potable and Irrigation Water

The City of Santa Clara Water and Sewer Utilities (CSC) would provide water service to the project site. CSC uses groundwater and surface water supplies from the Santa Clara Valley Water District (SCVWD) and the San Francisco Hetch-Hetchy System to provide water to various land uses throughout the City.

CSC owns and maintains the existing water mains surrounding the project site, including water mains in The Alameda and El Camino Real.

Potable water service would be provided to the site by the existing and proposed water infrastructure system. The proposed project would be served by an existing 12-inch water main in El Camino Real and an existing 6-inch main in The Alameda. In addition, the proposed project would construct 12 and 24-inch water mains in The Alameda and Harrison Street. The proposed project is estimated to require approximately 60.1 acre-feet of potable water annually. If the annual water demand associated with the existing uses on the project site (1.7 acre-feet) is deducted from this number, the net additional water required by the proposed project would be about 58.4 acre- feet/year.

Recycled water would be used for landscape irrigation on the project site. The project would extend the 8-inch recycled water main approximately 500 linear feet within Fremont Street from the intersection of Fremont and Alviso Streets to the project frontage on the east side of the intersection of The Alameda and Fremont Street. This recycled water line would provide service to the entire development.

### 3.8.2 Wastewater

Wastewater generated in the City of Santa Clara is treated at the San Jose-Santa Clara Regional Wastewater Facility (RWF), which is a regional wastewater treatment facility serving eight tributary wastewater collection agencies. CSC provides wastewater collection service to the project site. Services provided by CSC include construction, operation, and maintenance of the City's sanitary sewer system. CSC operates and maintains 18-inch and 24-inch sewer mains in Benton Street; a 6-inch sewer main in Fremont Street, Sherman Avenue, and The Alameda; and a 12-inch sewer main in El Camino Real.

Wastewater generated within the project site would be collected through an on-site collection system and discharged into the existing wastewater main in Benton Street and El Camino Real for conveyance to the RWF. Average dry weather flows for the proposed project would be approximately 97,380 gallons per day (gpd), or 67.6 gallons per minute (gpm). If the average dry weather flow associated with the existing uses on the project site (8,971 gpd) is deducted from this number, the net average dry weather flow from the site would be about 88,409 gpd, or 61.4 gpm.

### 3.8.3 Storm Drainage

The site is currently served by the City's municipal storm drainage facilities. The City owns and maintains 24-inch to 48-inch storm drains in Benton Street, a 60-inch storm drain in Sherman Street, and 48-inch and 60-inch storm drains in El Camino Real.

The proposed project would not alter the drainage system along Benton Street except to remove a dead end portion located within the area of Sherman Street. In addition, the project proposes to reroute the storm drain on Sherman Street around the project site to the east along Benton Street and then to the north along El Camino Real. As noted above, the new segment of storm drain would be upsized as part of the proposed project to 72 inches to maintain prior capacity. Storm water from proposed impervious surfaces on the site would be collected, treated, and discharged to the storm drains.

The proposed project qualifies as a "Special Project" under Category C: Transit-Oriented Development of the Santa Clara Valley Urban Runoff Pollution Prevention Program. The proposed project meets the following minimum requirements:

- at least 50 percent of the project site is within 0.25 mile of a transit hub (Santa Clara Station);
- the project is a non-auto related use (mixed-use commercial and residential); and
- the project FAR is at least 2:1 (The proposed project would have a FAR of 2.3).

As a "Special Project" and based on the project's location, density, and above-grade parking, the proposed project may receive credits to use Bay Area Stormwater Management Agencies Association (BASMAA) approved, non-LID (Low Impact Development) treatment methods to treat up to 70 percent of the post-development storm water runoff.

The project proposes to treat stormwater through a combination of bioretention areas and media filter vault system. A minimum of 30 percent of the post-development storm water volume would be treated through bioretention. Any flow-through in-ground planters used as bioretention would be designed in accordance with Chapter 6.2 of the C.3 Stormwater Handbook, updated April 2012.

The remainder of the post-development storm water volume would be treated through subgrade media filter vaults located at or near discharge points to the existing public storm drain system. These vaults will contain media filter cartridges designed in accordance with Chapter 6.7 of the C.3 Stormwater Handbook, and taken from the BASMAA list of approved media filter devices.

Bioretention areas and media filter vaults would remove pollutants from on-site storm water runoff prior to discharge to the City's storm drain system in compliance with the City of Santa Clara Public Works Department guidelines and standards as well as the San Francisco Bay Regional Water Quality Control Board's Municipal Regional Permit requirements.

### 3.8.4 Electricity and Natural Gas

The proposed project is estimated to require approximately 3,363 megawatt hours (MWh) per year of electricity and approximately 2,750 thousand British Thermal Units (mBTU)/year of natural gas. This includes usage associated with residential uses, retail uses, and amenity uses. The proposed project would achieve a minimum of a LEED Gold or greater equivalent and comply with Title 24 (2013) standards and General Plan Policy 5.10.3-P4 that requires new development to promote sustainable buildings and land planning, including programs that reduce energy and water consumption in new development.

### 3.8.5 Sustainable Development Features

The proposed project proposes high-density residential, with on-site commercial amenities, on an infill site with easy access to transit. The proposed project will achieve a minimum of a LEED Gold or greater equivalent. In addition, the project proposes to incorporate the following measures to minimize energy and water consumption, improve indoor environmental quality, minimize waste disposed in landfills, and minimize vehicular traffic and associated air pollutant emissions:

#### *Water*

- Reclaimed Irrigation Water
  - The recycled water main will be extended approximately 500 linear feet along Fremont Street from the intersection of Fremont Street and Alviso Street to the project front on the east side of the intersection of The Alameda and Fremont Street. This recycled water line will provide service to the entire development.
  - Recycled water will be used for irrigation of all landscaped areas.
- New landscape plants will be drought tolerant, native to California or other Mediterranean climates, or other low water use species.
- High efficiency irrigation systems with water-efficient sprinkler heads, and smart controllers that use satellite weather data will be used.
- All water fixtures (faucets, showerheads, and toilets) will be low flow and/or WaterSense certified for low water use.
- All units will be equipped with Energy Star certified dishwashers for low water use.
- Common hot water boiler systems will be used for efficient hot water distribution.
- Whole System Water Balancing Modeling process will be used to provide a holistic water performance evaluation to achieve verified water reduction.

### *Energy*

- All buildings will exceed Title 24 energy requirements by a minimum of 10 percent.
- All apartments will be equipped with Energy Star certified appliances (dishwashers and refrigerators).
- Energy efficient LED and fluorescent light fixtures will be installed within the apartment buildings and for exterior lighting.
- All residential units will incorporate energy efficient Low-E windows.
- A minimum of 15 percent of the roof areas will be reserved for future photovoltaic (PV) solar installation. Infrastructure (conduit, structural elements, etc.) will be provided to facilitate the future PV solar installation.
- The parking garage will be equipped with Electric Vehicle (EV) charging stations.
- Temperature controllers will be installed for pool and spa heaters.

### *Materials*

- More than 55 percent of all demolition materials and construction debris will be recycled.
- Existing concrete from demolition will be crushed and re-used as base rock for the building foundations, roadways, sidewalks, and utility trenches.
- Durable, non-combustible materials, and fire resistant roofing will be used.
- "Green Seal" products will be used.
- Low/no VOC paints and coatings will be used in project construction and maintenance.
- Low VOC caulks, construction adhesives, and sealants will be used in project construction and maintenance.

### *Site Planning & Design*

- The proposed project is a mixed-use residential community with apartments and retail uses. Located near the Santa Clara Station (Cal-train) and Santa Clara University, the proposed project is pedestrian and bicycle oriented to reduce vehicular trips.
- The proposed project will be the first project to adopt and implement the City of Santa Clara's bicycle connectivity plan beginning at the Santa Clara Station and extending to the edge of the project site at the intersection of The Alameda and Benton Street.
- The proposed project will be equipped with secure bike lockers for residents and retail tenant employees.

- The proposed project will provide bicycle racks around the site for retail users as well as guests to the residential building and the greater community. A Bike Share program is also being explored for inclusion in the project scope and design.

- The proposed project will include direct connections to the adjacent Santa Clara Station. The proposed project will include a network of pedestrian and bicycle paths to and from the Station, Santa Clara University, area retail and service uses, parks, and all residential buildings.

- The proposed project will have two main public plazas, one at the corner of El Camino Real and Benton Street and the second one at the corner of Benton Street and The Alameda. These plazas will encourage pedestrian activity for the project as well as the greater community and will provide casual seating and activity spaces.

## 3.9 DEMOLITION AND CONSTRUCTION ACTIVITIES

Construction of the proposed project would be preceded by the demolition of the existing buildings on the project site. Demolition would generally proceed as follows: (1) the contents of the buildings would be characterized; (2) any hazards present would be abated, including, but not limited to, asbestos containing materials and lead-based paint; (3) reusable and recyclable materials would be identified and removed; (4) structures would be demolished and removed; (5) the foundation slabs and underground utilities would be removed. Construction would be conducted under a project-specific site management plan or equivalent plan approved by the RWQCB or other agency of applicable jurisdiction, in order to ensure protection of construction workers, the general public, the environment, and future site occupants from known and unknown contamination that may be present in the subsurface.

As noted earlier, the project site is developed with approximately 101,207 square feet of commercial and light industrial space, about 9,426 square feet of residential space, asphalt streets and driveways, and concrete walkways and sidewalks that would be demolished as part of the proposed project. The project is expected to generate about 14,180 tons of concrete, 4,700 tons of asphalt, 700 tons of construction debris, 100 tons of dimensional lumber, 207 tons of metals, and 105 tons of green waste. The proposed project is subject to the City Construction and Demolition Ordinance (which requires 50 percent diversion) as well as CALGreen Code. Debris generated from the demolition of the buildings would be sorted into materials that can be reused or recycled, materials that are contaminated and cannot be reused, and non-hazardous waste materials. Each type of material would be appropriately reused, stored, and/or disposed. Fluorescent light fixtures and other items that would require separate handling would be removed prior to building demolition. Metal, wire, conduit, etc., would be hauled off-site and sent to a recycling firm. Most of the concrete and asphalt would be crushed and ground to use on the site as engineered fill. This material would be stockpiled on the site until needed. It is estimated that of the total demolition debris that would be generated, about 1,112 tons would be hauled to a City-certified disposal facility.

Site clearing and demolition would be followed by excavation and grading, utility infrastructure, and foundation work. Construction of the below-grade parking level would require excavation of 10 to 12 feet below ground surface. Approximately 3,725 cubic yards (cy) of soil export and 20,250 cy of soil import are expected. Subsequent phases will include building construction, completion of exterior and interior improvements, and installation of landscaping.

It is anticipated that the City Council would consider the Draft EIR for certification in early 2016. If the proposed project were approved, site demolition work would begin in early summer 2016, followed by site grading and utility infrastructure work in late summer 2016. Construction of residential units is expected to commence in mid- fall 2016 with full occupancy by the start of 2019.

## 3.10 LEAD AND RESPONSIBLE AGENCIES

The City of Santa Clara has the principal responsibility for approving the proposed project. For this reason, the City is the "Lead Agency" as defined by CEQA and is responsible for preparation of this environmental document.

As defined by CEQA, "Responsible Agencies" are public agencies other than the Lead Agency that have discretionary approval over the project. The Draft EIR prepared for the proposed project would serve as the primary source of environmental information for each Responsible Agency. The following agencies are considered responsible agencies for the proposed project.

**California Department of Transportation (Caltrans).** Caltrans is a California government department that manages the state highway system and is actively involved with public transportation systems within the state. The construction of utilities on El Camino Real (State Route 82) required to serve the proposed project will require an encroachment permit from Caltrans.

**Regional Water Quality Control Board (RWQCB).** The RWQCB is a responsible agency for this project. The proposed project will need to submit a Notice of Intent for coverage under the State National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit). In addition, it is anticipated that the RWQCB will have oversight and approval jurisdiction for any site management plan or equivalent plan developed for the project.

**Bay Area Air Quality Management District (BAAQMD).** The BAAQMD is responsible for monitoring ambient air pollutant levels throughout the basin and developing and implementing attainment strategies to ensure that future air quality will be within federal and state standards. Although no permit is required for building demolition, the BAAQMD requires notification of demolition projects of this size. Notification is performed through filing of a form provided by the BAAQMD. BAAQMD Regulation 11, Rule 2 also requires that a survey for asbestos be performed before demolition as well as the proper removal and disposal of any asbestos found.

# 4.0 ENVIRONMENTAL IMPACT ANALYSIS

## 4.0.1 INTRODUCTION

This section presents an analysis of each resource topic that has been identified through preliminary environmental analysis and the public scoping process as likely to be affected by the proposed Mission Town Center project (proposed project). Each topical subsection describes the environmental setting of the proposed project as it relates to that specific environmental topic; the impacts that could result from implementation of the proposed project; and mitigation measures that would avoid, reduce, or compensate for the significant impacts of the proposed project.

## 4.0.2 LEVELS OF SIGNIFICANCE

Under the California Environmental Quality Act (CEQA), a variety of terms are used to describe the levels of significance of adverse impacts. The definitions of terms used in this Draft EIR are presented below.

- **Significant and Unavoidable Impact.** An impact that exceeds the defined standards of significance and cannot be avoided or reduced to a less than significant level through implementation of feasible mitigation measures.

- **Significant Impact.** An impact that exceeds the defined standards of significance and that can be avoided or reduced to a less than significant level through implementation of feasible mitigation measures.

- **Potentially Significant Impact.** A significant impact that may ultimately be determined to be less than significant; the level of significance may be reduced through implementation of policies or guidelines (that are not required by statue or ordinance), or through further definition of the proposed project detail in the future. Potentially significant impacts may also be impacts for which there is not enough information to draw a firm conclusion; however, for the purpose of this Draft EIR, they are considered significant. Such impacts are equivalent to Significant Impacts and require the identification of feasible mitigation measures.

- **Less Than Significant Impact.** Impacts that are adverse but do not exceed the specified standards of significance.

- **No Impact.** The proposed project would not create an impact.

## 4.0.3 FORMAT OF RESOURCE TOPIC SECTIONS

Each environmental topic considered in this section of the Draft EIR is addressed under six primary subsections: Introduction, Environmental Setting, Regulatory Considerations, Project Impacts and Mitigation Measures, Cumulative Impacts and Mitigation Measures,. An overview of the information included in these sections is provided below.

### 4.0.3.1 Introduction

The introduction section describes the topic to be analyzed and the contents of the analysis. It also provides the sources used to evaluate the potential impact of the proposed project.

### 4.0.3.2 Environmental Setting

The environmental setting section for each environmental topic provides a description of the applicable physical setting of the project area and its surroundings (e.g., existing land uses, existing soil conditions, existing transportation network and operating conditions).

CEQA requires an evaluation of a proposed project's environmental impacts against conditions existing without the project. Historically this was interpreted to mean the specific, static conditions that existed at the moment in time that the environmental review was commenced with the publication of the Notice of Preparation (NOP); however, in a 2013 court ruling[1] the California Supreme Court held that it is appropriate to evaluate a proposed project's operational impacts relative to existing conditions that reflect changes taking place in the baseline at the time of preparation of the Draft EIR, based on substantial evidence available to the Lead Agency. The specific example the Court used was: "in an EIR for a new office building, the analysis of impacts on sunlight and views in the surrounding neighborhood might reasonably take account of a larger tower already under construction on an adjacent site at the time of EIR preparation." Therefore, this Draft EIR evaluates the operational impacts of the proposed project against the conditions that can be expected to exist when the project would be built and occupied (i.e., by 2019-2020), based on information available to the Lead Agency about projects currently under construction. In addition, based on the same court ruling, the EIR analysis assumes that under the No Project scenario, the existing buildings on the project site would continue to be fully occupied with residential, commercial, and light industrial office uses.

---

1 Neighbors for Smart Rail v. Exposition Metro Line Construction Authority, et al (8/5/13) 57 Cal.4th 439,453.

### 4.0.3.3 Regulatory Considerations

The overview of regulatory considerations for each environmental topic is organized by agency, including applicable federal, state, regional, and local policies.

### 4.0.3.4 Project Impacts and Mitigation Measures

This subsection lists the significance criteria that are used to evaluate impacts, followed by a discussion of the impacts that would result from implementation of the proposed project. Impacts are numbered and shown in bold type, and the mitigation measures are numbered to correspond to the impact. Impacts and mitigation measures are numbered consecutively within each topical section.

### 4.0.3.5 Cumulative Impacts and Mitigation Measures

The cumulative impact analysis focuses on the change in the environment that would result from the incremental impact of the proposed project when added to the impacts of other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant project impacts taking place over a period of time.

The *State CEQA Guidelines* suggest that the analysis of cumulative impacts for each environmental factor can employ one of two methods to establish the effects of other past, current, and probable future projects. A lead agency may select a list of projects, including those outside the control of the agency, or alternatively, a summary of projections. These projections may be from an adopted general plan or related planning document, or from a prior environmental document that has been adopted or certified, and these documents may describe or evaluate regional or area-wide conditions contributing to the cumulative impact.

This Draft EIR evaluates cumulative impacts using a list of closely related past, present, and reasonably foreseeable future projects. The projects listed in **Table 4.0-1, Approved Projects**, and **Table 4.0-2**, **Pending Projects**, are included in the cumulative analysis for the proposed project. Reasonably foreseeable future projects are defined to include approved but not built projects (**Table 4.0-1**) and projects for which applications have been submitted but have not yet been approved (**Table 4.0-2**). Of this list, 17 projects (presented in the tables with italics) are within 1.5 miles of the project site. These include projects that are currently under construction or are expected to be constructed between 2016 and 2018. As the construction of some of these projects would overlap with that of the proposed project (2016 to 2018), the potential for the construction impacts of these projects to cumulate with the impacts of the proposed project was considered in this Draft EIR. However, only three of these approved and pending projects are located within 1,000 feet of the project site (which is the distance recommended by the Bay

Area Air Quality Management District for evaluation of cumulative construction-phase air quality impacts and is also an appropriate distance for evaluation of cumulative construction-phase noise impacts), and these projects are near completion. As a result, it is not expected that the impacts from the proposed project and these projects would combine to result in significant cumulative impacts, such as cumulative air quality and noise impacts during construction.

**Table 4.0-1**
**Approved Projects**

| Project | Location | Description | Anticipated Year Built[1] |
|---|---|---|---|
| Intel SC-13 | 2250 Mission College Boulevard | Development of 100,000 sf of office land use | 2017-2020 |
| Former BAREC site/ Summerhill and Charities Housing | 90 Winchester Boulevard | Development of 165 senior apartment units | Project subject to financing |
| Hewlett-Packard/Agilent Technologies | 5301 Stevens Creek Boulevard | Development of 727,500 sf of office and research and development | 2025s |
| 3 Com/Cognac Great America | 5402 Great American Parkway | Development of 278,000 sf of office/research and development | 2017-2020 |
| 2350 Mission College Boulevard Office Retail | 2350 Mission College Boulevard | Development of 300,000 sf of office in two buildings and a six-story parking garage; 6,000 sf of retail | 2016-2018 |
| Sobrato Office Development | 4301, 4401, and 4551 Great America Parkway | Development of two 12-story office buildings totaling 718,000 sf and one four-story parking garage on a developed property with two 300,000 sf existing office buildings that are to remain | 2025 |
| Fairfield Development | 900 Kiely Boulevard | Development of 766 housing units, 57 single-family development, 68 row houses, 116 townhouses, and 525 apartments – Modification to current PD-MC approval allowing additional 27 apartment units | Phase 1 for Northern apartment building complete. Phase II starting for south apartment building. Single-family development and townhouses under construction |
| Augustine Bowers Industrial Campus/Equity Office | 2620–2727 Augustine Drive (includes properties on Bowers Avenue and Scott Boulevard) | Development of 1,862,100 sf of office, 13,000 sf of office-serving accessory retail, and 125,000 sf of specialty retail. | 2017-2020 |
| NVIDIA | 2600, 2800 San Tomas Expressway, and 2400 Condensa Street | Development of 1,200,000 sf of office and high-tech lab buildings replacing approx. 690,000 sf of office space | 2017-2020 |
| Mission College Master Plan | Mission College Boulevard and Great America Parkway | Development of additional 427,000 sf | 2017-2020 |

| Project | Location | Description | Anticipated Year Built[1] |
|---|---|---|---|
| Yahoo! | 5010 Old Ironsides Drive | Phased development of a 3,060,000 sf office/R&D campus consisting of 13 six-story buildings, three commons buildings, surface parking & two levels of below grade parking | 2035 |
| Menlo Equities Office Park | 3333 Scott Boulevard | Development of 735,000 sf (five buildings) office space | Some phases completed |
| Mellon Bank/Perry Arrillaga | 5403 Stevens Creek | Development of two six-story office buildings totaling 375,000 sf and one parking structure with 1,281 spaces and 38 surface parking spaces in conjunction with demolition of existing one-story commercial building | One building completed |
| Patrick Duran | 4888 Patrick Henry | Development of 13,000 sf addition to existing industrial/office | 2017-2018 |
| Calvary Southern Baptist Church | 3137 Forbes Avenue | Development of two-story building, 14,000+ sf and parking, landscaping improvements | 2016-2020 |
| *Santa Clara University* | *1043 Alviso Street* | *Development of four-story parking garage and three-story Art and Art History building in conjunction with removal/demo/relocation of structures on the project site* | *Garage completed, Art building under construction* |
| *Six single-family project (formerly 9 unit townhome condominium project)* | *3499 The Alameda* | *Rezoning to PD from ML to facilitate development of six single-family homes* | *Under construction* |
| James Redfield | 4306 Fillmore Street | Rezoning single-family property to PD to allow lot split and building of second new SFD on smaller lots. | Under construction |
| *SCU Steve Brodie* | *1079 Alviso Street* | *Rezoning of one parcel to allow Larrder House relocation* | *NA* |
| Sobrato | 2200 Lawson Lane | Amend PD zoning (PLN2007-06379) and Development Agreement (PLN2008-06880) for approved office R&D campus to increase building sf of allowable office space from 516,000 to 613,800 sf | One to two years for new permit; Previously approved project under construction |
| Office Building | 3000 Bowers Avenue | Development of two five-story 150,000 sf office buildings, one two-story 17,400 sf amenity building, and six-story parking structure with a total of 1,200 parking spaces in conjunction with demolition of an existing 100,042 sf two-story office building | Under construction |
| Silicon Valley Builders | 2585 El Camino Real | Development of four-story 222 unit multi-family residential development with wrap parking structure with 375 on-site parking spaces in conjunction with demolition of commercial building | Under construction |
| *Silicon Valley Builders* | *555 Saratoga Avenue* | *Development of three-story condominium project with 13 units* | *2017* |

| Project | Location | Description | Anticipated Year Built[1] |
|---|---|---|---|
| SVP | 2805 and 2807 Mission College Boulevard | Data center retrofit in existing office building | 2016-2017 |
| Applied Materials | 3303 Scott Blvd. | Development of three story office building at approximately 78,000 sf | NA |
| *Silicon Sage Builders* | *1460 Monroe Street* | *Development of four-story mixed-use development 1,800 sf of ground floor retail and 18 residential units above; 43 surface parking spaces* | *Under construction* |
| Prometheus | 45 Buckingham Drive and 66 Saratoga Avenue | Development of four-story 222-unit multi-family residential development with wrap parking structure with 375 on-site parking spaces in conjunction with demolition of existing commercial building | Site work commenced |
| U-Haul and Self-Storage | 2121 Laurelwood Road | Rescind PD and rezone to ML to allow U-Haul facility and self-storage business | Under construction |
| David Tymn for Mozart Dev. | 3051 Homestead Road | Demolish existing single-family residence, and replacement with eight detached homes | Under construction |
| Sobrato | 4301 Great America Parkway | Construct up to 718,000 square feet of new office space in up to 1,018,000 square feet of office development; up to two, five-level parking structures with up to 3,360 total parking spaces | 2016-2018 |
| Dennis Chargin | 865 Pomeroy Avenue | Development of additional 20 one-bedroom apartment units within an existing apartment complex | Under construction |
| Tiemo Mehner/CoreSite | 3001 Coronado Drive | Development of two three-story 92,147 sf buildings and other improvements such as bio-swales, parking, and landscaping | Under construction |
| BNP Leasing Corp | 5450 Great America Parkway | Development of a 6-story office building on an existing office/R&D site with 3 office buildings and subgrade and surface parking | 2015 |
| Charles McKeag | 166 Saratoga Avenue | Development of 33-unit residential project (phase I) on 1.74-acre site. Total building area 54,000 sf | TBD |
| *Silicon Valley Builders* | *1313 Franklin Street* | *Development of multifamily residential project with 46 units and 16,000 sf or retail space and four stories* | *TBD* |
| Tiemo Mehner | 3001 and 3032 Coronado Drive | AC and DA for two new data centers along with vacation of a portion of Coronado Drive | Under construction |
| *DH Family Partnership* | *750 Walsh Avenue* | *Development of a new 57,000 sf industrial warehouse building and surface parking and site improvement* | *Under construction* |
| TI and ARC | 2930 Corvin Drive | Convert an existing industrial building into a data center (2.5 MW energy use) | TBD |

| Project | Location | Description | Anticipated Year Built[1] |
|---|---|---|---|
| Oracle | 4090 and 4100 Network Circle | Development of one new 3-story building and one new single-story building with associated site improvements to an existing office campus | 2016-2017 |
| Cogswell College | 5302 Betsy Ross Drive | Cogswell Polytechnical College - private educational institution | 2015 |
| *Mehdi Shemirizi* | *1480 Main Street* | *Development of a mixed use project with 12 multi-family units and 1,000 square feet of retail* | *2015-2016* |
| Jane Vaughn | 3333 Scott Boulevard | Development of 1.316 million square feet of office buildings | Under construction |
| JOMA Studio Architects | 1701 Lawrence Road | Development of nine attached single family homes | 2015-2016 |
| Eli Engleman | 990 Wren Avenue | Construction of five new detached two story single family homes with attached garage | 2015-2016 |
| -- | 3700 El Camino Real | Development of 87,000 square feet of retail and commercial and 476 multi-family units | 2015-2016 |
| *Santa Clara University* | *455 El Camino Real* | *Re-use of existing office building for SCU off-campus graduate studies* | *2015-2016* |
| Menlo Equities | 3345 Scott Boulevard | Development of six-story Building D | 2015-2016 |
| *Michael Fischer* | *820 Civic Center Drive* | *Development of three-unit townhouses* | *2015-2016* |

*Source: City of Santa Clara, 2015*
*sf = square feet*
*NA = Information not available*
*Italic indicates that the project is within 1.5 miles of the proposed project.*
[1] *All construction periods are in reference to 2015.*

**Table 4.0-2**
**Pending Projects**

| Applicant | Location | Description | Anticipated Year Built[1] |
|---|---|---|---|
| Scott Menard | 3305 Kifer Road | Development of 48 attached townhomes and stacked flats with 109 parking spaces and open space | TBD |
| Lennar Commercial | 3607 Kifer Road | Development of an off-site five-level parking structure at 3607 Tahoe Way and a five-story 199,460 square foot office building | TBD |
| *Pinn Bros* | *1890 El Camino Real* | *Development of 28 townhomes* | *2017-2018* |
| Johnathon Fearn/ Summerhill Homes | 3505 Kifer Road | Development of 996 residential units with 37,000 square foot retail and associated open space, landscaping, parking and other improvements as part of the Lawrence Station Area Plan | Two to five years |
| Westfield Valley Fair | 2855 Stevens Creek Boulevard | New Movie Theater complex and new retail tenant space and free standing bank building | 2016 |
| *SCU Steve Brodie* | *455 El Camino Real* | *Re-use of existing office building for SCU for graduate studies off-campus instruction/occupation* | *2015-2016* |
| Irvine | 3285 Scott Boulevard (2600 Augustine Drive) | Development of 1,800 housing units, 40,000 sf retail, and 30 acres parks/open space on a 100+ acre site | 2016-2020 |
| *City Ventures* | *1525 Alviso Street* | *Development of 40 townhomes in a three-story structure (next to Mission Inn motel)* | *Two to three years* |
| *Summerhill Homes* | *2230 El Camino Real* | *Demolition of existing commercial buildings and the development of 164 apartment units* | *Two years* |
| Rubicon Investments | 100 North Winchester Boulevard | Demolition of an existing 3 story building and the development of a 60 unit senior apartment community | One to two years |
| *Jon Shank* | *1220 Memorex Drive* | *Development of a self-storage facility* | *2016* |
| *Sobrato* | *2250 El Camino Real* | *Development of 48 apartments on three floors over podium parking (Western Motel site)* | *2017* |
| Related | 5155 Stars and Stripes Drive | Development of up to 8,000,000 sf of office, commercial and residential space along with construction of parking facilities, provision of open space, and public and private infrastructure improvements and/or relocations | Start 2017 (Phased over 20 years) |
| Kurt Anderson | 2891 Homestead Road | Replacement of a single family residence and detached garage with a 13-unit two- and three-story townhome development on a podium over at-grade parking | 2015-2016 |

| Applicant | Location | Description | Anticipated Year Built[1] |
|---|---|---|---|
| Montana Lowe Enterprises (Centennial Gateway LLC) | 5120 Star and Stripes Drive | Development of up to 730,000 sf of office, retail, restaurant, and hotel space; pedestrian amenity areas; structured/podium parking (possibly connected to existing City parking structure); site, landscape improvements, and expansion of proposed parcels into the existing right of way | 2016 |
| Martha Polanco/ Dory Marhamat | 1075 Pomeroy Avenue | Development of five-unit townhome project | 2014–2015 |
| *Jerry Mangono* | *2255 The Alameda* | *Rezone of small parcel to include one living unit and office* | *NA* |
| Mike Sullivan for Citation Homes | 2490 and 2500 El Camino Real | Development of eight contiguous parcels (2490 and 2500 El Camino Real) totaling 8.4 acres with a 100 percent residential project consisting of up to 492 multifamily units and 19 townhomes (at approx. 60 du/ac) | Two to five years |
| Swim Center at Central Park | 909 Kiely Boulevard | Two Olympic-sized pools, special event venue. Replacement and possible enhancement of current facilities | Four to 10 years |
| MCA | 3033 Scott Boulevard | Expansion of activities at Muslim Community Association to include new high school and doubling of student enrollment | NA |

*Source: City of Santa Clara, 2015*
*sf = square feet*
*- = Information not available*
*NA = Not applicable*
*Italic indicates that the project is within 1.5 miles of the proposed project.*
[1] *All dates for construction timeframes are in reference to 2015.*

However, the analysis of cumulative traffic impacts in **Section 4.8** does not rely on a list of projects but is instead based on regional projections of growth. The cumulative traffic analysis includes traffic volumes based on forecasts from the VTA traffic models, which contains City-wide development and roadway improvements expected to occur by the Year 2040, including the City Place development (listed in **Table 4.0-2** above as the Related and the Montana Lowe Enterprise projects).

The cumulative impacts discussion describes the cumulative impacts of the proposed project and determines whether implementation of the proposed project in combination with other foreseeable development would result in a significant cumulative impact, and, if so, whether the project's contribution to the significant cumulative impact would be cumulatively considerable.

Section 15130 of the *State CEQA Guidelines* provides direction regarding cumulative impact analysis as follows:

- an EIR should not discuss cumulative impacts that do not result in part from the proposed project;
- a lead agency may determine that an identified cumulative impact is less than significant, and shall briefly identify facts and analysis in the EIR supporting its determination;
- a lead agency may determine a project's incremental effect is not cumulatively considerable, and therefore is not significant, and shall briefly describe in the EIR the basis of its determination; and
- a lead agency may determine a project's cumulatively considerable contribution to a significant cumulative impact may be rendered less than cumulatively considerable and therefore residually not significant, if the project implements or funds its fair share of mitigation measure or measures designed to alleviate the cumulative impact.

# 4.1 AIR QUALITY

## 4.1.1 INTRODUCTION

This section presents existing air quality conditions in the project area (including the project site, the applicable air district jurisdiction, and the air basin) and analyzes the potential air quality impacts, both temporary (i.e., construction) and long term (i.e., operational), from the implementation of the proposed Mission Town Center project. The section also provides a description of the regulatory framework for air quality management on a federal, state, regional, and local level. The section is based on an Air Quality and Greenhouse Gas Emission Assessment prepared for the proposed project by Illingworth & Rodkin, Inc., dated November 13, 2015. The report is included in **Appendix 4.1** of this Draft EIR**.**

## 4.1.2 ENVIRONMENTAL SETTING

### 4.1.2.1 Climate and Meteorology

The project site is located in the City of Santa Clara, which is situated in the Santa Clara Valley in the southern portion of the San Francisco Bay and within the boundaries of the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties as well as the southern half of Sonoma County and the southwestern portion of Solano County.

The climate of the Bay Area is Mediterranean in character, with mild, rainy winter weather from November through March and warm, dry weather from June through October. Pollutant emissions are high in the Santa Clara Valley, especially from motor vehicle congestion. High summer temperatures, stable air, and mountains surrounding the valley combine to promote ozone formation. In addition to the many local sources of pollution, prevailing winds carry ozone precursors from San Francisco, San Mateo, and Alameda counties to the Santa Clara Valley. The valley tends to channel pollutants to the southeast. In addition, on summer days with low-level inversions, ozone can be recirculated by southerly drainage flows in the late evening and early morning and by the prevailing northwesterly winds in the afternoon. A similar recirculation pattern occurs in the winter, affecting levels of carbon monoxide and particulate matter. This movement of the air up and down the valley, during these periods, increases the concentrations of the pollutants and their correlative impacts.

Mean minimum temperatures in the project area range from high 50s in the summer to low 40s in the winter. Mean maximum summer temperatures are in the low 80s and winter maximum temperatures in the high 50s. Winds in the valley are greatly influenced by the terrain, resulting in a mean prevailing flow that roughly parallels the valley's northwest-southeast axis. A north-northwesterly sea breeze flows

through the valley during the afternoon and early evening, and a light south-southeasterly drainage flow occurs during the late evening and early morning. In the summer the southern end of the valley sometimes becomes a "convergence zone," when air flowing from the Monterey Bay gets channeled northward into the southern end of the valley and meets with the prevailing north-northwesterly winds.

Wind speeds are greatest in the spring and summer and weakest in the fall and winter. Nighttime and early morning hours frequently have calm winds in all seasons, while summer afternoons and evenings are quite breezy. Strong winds are rare, associated mostly with the occasional winter storm.

#### 4.1.2.2 Regional Air Quality

The determination of whether a region's air quality is healthful or unhealthful is made by comparing contaminant levels in ambient air samples to national and state standards. Health-based air quality standards have been established by California and the federal government for the following seven criteria[1] air pollutants: ozone ($O_3$), carbon monoxide (CO), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), respirable particulate matter less than 10 microns in diameter (PM10), fine particulate matter less than 2.5 microns in diameter (PM2.5), and lead (Pb). These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The state and national ambient air quality standards for each of the monitored pollutants and their effects on health are summarized in **Table 4.1-1, Ambient Air Quality Standards**. The "primary" standards have been established to protect the public health. The "secondary" standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation and other aspects of the general welfare California standards are generally the same as or more stringent than federal standards.

---

1 "Criteria" pollutants are air pollutants for which the US EPA has established air quality standards. They are so named because the US EPA periodically publishes criteria documents to help establish the federal air quality standards.

**Table 4.1-1**
**Ambient Air Quality Standards**

| Air Pollutant | Averaging Time | California Standards | National Standards[1] | |
|---|---|---|---|---|
| | | | Primary[2,3] | Secondary[2,4] |
| Ozone ($O_3$) | 8-hour | 0.070 ppm (137 μg/m³) | 0.075 ppm (147 μg/m³) | Same as primary |
| | 1-hour | 0.09 ppm (180 μg/m³) | --[5] | -- |
| Carbon Monoxide (CO) | 8-hour | 9.0 ppm (10 mg/m³) | 9 ppm (10 mg/m³) | -- |
| | 1-hour | 20 ppm (23 mg/m³) | 35 ppm (40 mg/m³) | -- |
| Nitrogen Dioxide ($NO_2$) | Annual | 0.030 ppm (57 μg/m³) | 0.053 ppm (100 μg/m³) | Same as primary |
| | 1-hour | 0.18 ppm (339 μg/m³) | 0.100 ppm[6] (188 μg/m³) | -- |
| Sulfur Dioxide ($SO_2$) | Annual | -- | --[7] | -- |
| | 24-hour | 0.04 ppm (105 μg/m³) | --[7] | -- |
| | 3-hour | -- | -- | 0.5 ppm (1300 μg/m³) |
| | 1-hour | 0.25 ppm (655 μg/m³) | 0.075 ppm[7] (196 μg/m³) | -- |
| Respirable Particulate Matter (PM10) | Annual | 20 μg/m³ | -- | -- |
| | 24-hour | 50 μg/m³ | 150 μg/m³ | Same as primary |
| Fine Particulate Matter (PM2.5) | Annual | 12 μg/m³ | 12 μg/m³ | -- |
| | 24-hour | No separate state standard | 35 μg/m³ | -- |
| Lead | Calendar Quarter | -- | 1.5 μg/m³ | Same as primary |
| | 30-day Average | 1.5 μg/m3 | -- | -- |

*Source: Illingworth & Rodkin, Inc., 2015*
*ppm = parts per million by volume; μg/m³ = microgram per cubic meter; mg/m³ = milligrams per cubic meter.*

1 *Standards, other than for ozone and those based on annual averages, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.*

2 *Concentrations are expressed first in units in which they were promulgated. Equivalent units given in parenthesis.*

3 *Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the U.S. Environmental Protection Agency (US EPA).*

4 *Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.*

5 *The national 1-hour ozone standard was revoked by US EPA on June 15, 2005. A new 8-hour standard was established in May 2008.*

6 *The form of the 1-hour $NO_2$ standard is the 3-year average of the 98th percentile of the daily maximum 1-hour average concentration.*

7 *On June 2, 2010 the US 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 the 1-hour daily maximum. The US EPA also revoked both the existing 24-hour and annual average $SO_2$ standards.*

Air quality of a region is considered to be in attainment of the National Ambient Air Quality Standards (NAAQS) if the measured ambient air pollutant levels are not exceeded more than once per year, except for $O_3$, PM10, PM2.5, and those based on annual averages or arithmetic mean. The NAAQS for $O_3$, PM10, and PM2.5 are based on statistical calculations over one- to three-year periods, depending on the pollutant. The SFBAAB is currently designated as a marginal nonattainment area with respect to the

national standard for 8-hour $O_3$, and nonattainment for 24-hour PM2.5; and is designated as attainment or unclassifiable for all other pollutants. Additional details regarding the attainment status are provided later in this section.

Air quality of a region is considered to be in attainment of the state standards if the measured ambient air pollutant levels for $O_3$, CO, $SO_2$ (1- and 24-hour), $NO_2$, PM10, PM2.5, and visibility reducing particles are not exceeded, and all other standards are not equaled or exceeded at any time in any consecutive three-year period. The SFBAAB is currently designated as a nonattainment area with respect to the state standards for $O_3$, PM10, and PM2.5 and is designated as attainment or unclassified for all other pollutants. Additional details regarding the attainment status are provided later in this section.

Air quality in the SFBAAB is affected by the pollutants generated by dense population centers, heavy vehicular traffic, and industry. However, as mentioned above, coastal sea breezes tend to transport pollutants generated within the SFBAAB to inland locations such as the Central Valley. The air pollutants within the SFBAAB are generated by two categories of sources: stationary and mobile. Stationary sources comprise "point sources," which have one or more emission sources at a single facility, or "area sources," which are widely distributed and produce many small emissions. Point sources are usually associated with manufacturing and industrial uses and include sources such as refinery boilers or combustion equipment that produce electricity or process heat. Examples of area sources include residential water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products, such as barbecue lighter fluid or hair spray. "Mobile sources" refer to operational and evaporative emissions from on- and off-road motor vehicles.

#### 4.1.2.3 Local Air Quality

The air quality of any region is evaluated by comparing the concentrations of air pollutants present in the air to an appropriate ambient air quality standard. The standards represent the allowable pollutant concentrations designed to ensure that the public health and welfare are protected, while including a reasonable margin of safety to protect the more sensitive individuals in the population. The Bay Area Air Quality Management District (BAAQMD) operates more than 30 air-quality monitoring stations throughout the SFBAAB to measure ambient concentrations of the criteria pollutants. The nearest monitoring station to the project site is located on Jackson Street in San José. **Table 4.1-2, Highest Measured Air Pollutant Concentrations near the Project Site**, provides a summary of air pollutant monitoring data for this station. This table shows the highest air pollutant concentrations measured at the station over the three-year period from 2010 through 2014.

**Table 4.1-2**
**Highest Measured Air Pollutant Concentrations near the Project Site**

| Pollutant | Year 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| **OZONE ($O_3$)** | | | | | |
| Maximum 1-hour concentration (ppm) | **0.126** | **0.098** | **0.101** | 0.093 | **0.097** |
| Maximum 8-hour concentration (ppm) | **0.086** | 0.067 | 0.062 | **0.079** | **0.078** |
| **CARBON MONOXIDE (CO)** | | | | | |
| Maximum 8-hour concentration (ppm) | 2.2 | 2.2 | 1.9 | 2.5 | 1.9 |
| **NITROGEN DIOXIDE ($NO_2$)** | | | | | |
| Maximum 1-hour concentration (ppm) | 0.064 | 0.061 | 0.067 | 0.059 | 0.058 |
| Annual average concentration (ppm) | 0.014 | 0.015 | 0.013 | 0.015 | 0.013 |
| **RESPIRABLE PARTICULATE MATTER ($PM_{10}$)** | | | | | |
| Maximum 24-hour concentration, state (μg/m$^3$) | 46.8 | 44.3 | **59.6** | **58.0** | **55.0** |
| Annual arithmetic mean concentration (μg/m$^3$) | 19.5 | 19.2 | 18.8 | **22.3** | 19.9 |
| **FINE PARTICULATE MATTER ($PM_{2.5}$)** | | | | | |
| Maximum 24-hour concentration (μg/m$^3$) | **41.5** | **50.5** | **38.4** | **57.7** | **60.4** |
| Annual arithmetic mean concentration (μg/m$^3$)[6] | 9.0 | 9.9 | 9.1 | 12.4 | 8.4 |

*Source: BAAQMD Air Quality Summaries for 2010 – 2014, Illingworth & Rodkin, Inc., 2015.*
*ppm = parts per million by volume; μg/m3 = microgram per cubic meter.*
*Values reported in **bold** exceed ambient air quality standards.*

### 4.1.2.4 Sensitive Receptors

Certain groups of people are more affected by air pollution than others. The California Air Resources Board (CARB) has identified the following population groups as most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. The closest existing sensitive receptors to the project site are residences located next to the project's northern boundaries. Additional receptors are located to the west and south of the project site. New residents that would occupy the project site are also considered sensitive receptors. All project residential locations for the purposes of this analysis are assumed to include infants, children, and adults.

## 4.1.3 REGULATORY CONSIDERATIONS

Air quality within the SFBAAB is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly as well as individually to improve air quality

through legislation, regulations, planning, policymaking, education, and a variety of programs. With respect to the proposed project, the BAAQMD would administer most of the air quality requirements affecting the proposed project. The agencies primarily responsible for improving the air quality within the SFBAAB are discussed below along with their individual responsibilities.

### 4.1.3.1 United States Environmental Protection Agency

#### *Criteria Pollutants*

The United States Environmental Protection Agency (US EPA) is responsible for implementing and enforcing the federal Clean Air Act (CAA) and developing the NAAQS. The NAAQS identify concentrations for seven criteria pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The seven criteria pollutants are $O_3$, CO, $NO_2$, $SO_2$, PM10, PM2.5, and lead. The federal ambient air quality standards and the relevant health effects of the criteria pollutants are summarized above in **Table 4.1-1**. As part of its implementation responsibilities, the US EPA requires each state to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain and/or maintain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs.

The SFBAAB is currently classified by the US EPA as a marginal nonattainment area for the 8-hour standard for $O_3$ and a nonattainment area for PM2.5. Additionally, it has been designated as an attainment/unclassifiable area for the 1-hour and 8-hour standards for CO and the annual standard for $NO_2$, and as an attainment area for the quarterly lead standard and 24-hour and annual $SO_2$ standards. The SFBAAB is currently designated as unclassifiable for the 24-hour PM10 standard. In response to its implementation and enforcement responsibilities, the US EPA requires each state to prepare and submit a State Implementation Plan (SIP) describing how the state will achieve the federal standards by specified dates, depending on the severity of the air quality within the state or air basin. The status of the SFBAAB with respect to attainment with the NAAQS is summarized in **Table 4.1-3, National Ambient Air Quality Standard Designations – San Francisco Bay Area Air Basin**.

**Table 4.1-3**
**National Ambient Air Quality Standard Designations – San Francisco Bay Area Air Basin**

| Pollutant | Designation/Classification |
|---|---|
| Ozone ($O_3$) | Nonattainment/Marginal |
| Carbon Monoxide (CO) | Attainment/Maintenance |
| Nitrogen Dioxide ($NO_2$) | Attainment/Unclassifiable |
| Sulfur Dioxide ($SO_2$) | Attainment |
| Respirable Particulate Matter (PM10) | Unclassifiable |
| Fine Particulate Matter (PM2.5) | Nonattainment |
| Lead (Pb) | Attainment |

*Source: US Environmental Protection Agency, "Region 9: Air Programs, Air Quality Maps," http://www.epa.gov/region9/air/maps/. 2015*
[1] *The US EPA promulgated a new 1-hour NAAQS for NO2 which became effective on April 12, 2010. The US EPA issued final area designations in January 2012 which became effective February 29, 2012).*

### *Hazardous Air Pollutants*

Regulation of hazardous air pollutants (HAPs) under federal regulations is achieved through federal and state controls on individual sources. Federal law defines HAPs as non-criteria air pollutants with short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects. The 1990 federal CAA Amendments offer a comprehensive plan for achieving significant reductions in both mobile and stationary source emissions of HAPs. Under the 1990 CAA Amendments, a total of 189 chemicals or chemical families were designated HAPs because of their adverse human health effects. Title III of the 1990 federal CAA Amendments amended Section 112 of the CAA to replace the former program with an entirely new technology-based program. Under Title III, the US EPA must establish maximum achievable control technology emission standards for all new and existing "major" stationary sources through promulgation of National Emission Standards for Hazardous Air Pollutants (NESHAP). Major stationary sources of HAPs are required to obtain an operating permit from the BAAQMD pursuant to Title V of the 1990 CAA Amendments. A major source is defined as one that emits at least 10 tons per year of any HAP or at least 25 tons per year of all HAPs. The proposed project would not be considered a major source.

### 4.1.3.2 California Air Resources Board

CARB, a branch of the California Environmental Protection Agency (CalEPA), oversees air quality planning and control throughout California. It is primarily responsible for ensuring implementation of the 1988 California Clean Air Act (CCAA), for responding to the federal CAA requirements, and for regulating emissions from motor vehicles and consumer products within the state. The CCAA and other

California air quality statutes designate local air districts, such as the BAAQMD, with the responsibility for regulating most stationary sources, and to a certain extent, area sources.

CARB has established ambient air quality standards for the state (i.e., California Ambient Air Quality Standards [CAAQS]). These standards apply to the same seven criteria pollutants as the federal CAA and also address sulfates ($SO_4$), visibility-reducing particles, hydrogen sulfide ($H_2S$) and vinyl chloride ($C_2H_3Cl$). The CAAQS are more stringent than the federal standards and, in the case of PM10 and $SO_2$, far more stringent. Based on monitored pollutant levels, the CCAA divides $O_3$ nonattainment areas into four categories (moderate, serious, severe, and extreme) to which progressively more stringent planning and emission control requirements apply.

The SFBAAB is a nonattainment area for the California 1-hour and 8-hour ozone standard. The SFBAAB is designated as nonattainment for the California 24-hour and annual PM10 standards, as well as the California annual PM2.5 standard. The SFBAAB is designated as attainment or unclassifiable for all other CAAQS. The ozone precursors (reactive organic gases [ROG], and oxides of nitrogen [$NO_X$]), in addition to PM10, are the criteria air pollutants of concern for projects located in the SFBAAB. The status of the SFBAAB with respect to attainment with the CAAQS is summarized in **Table 4.1-4, California Ambient Air Quality Standard Designations – San Francisco Bay Area Air Basin**.

**Table 4.1-4**
**California Ambient Air Quality Standard Designations – San Francisco Bay Area Air Basin**

| Pollutant | Designation/Classification |
|---|---|
| Ozone ($O_3$) | Nonattainment[1] |
| Carbon Monoxide (CO) | Attainment |
| Nitrogen Dioxide ($NO_2$) | Attainment |
| Sulfur Dioxide ($SO_2$) | Attainment |
| Respirable Particulate Matter (PM10) | Nonattainment |
| Fine Particulate Matter (PM2.5) | Nonattainment |
| Lead (Pb) | Attainment |
| Sulfates ($SO_4$) | Attainment |
| Hydrogen Sulfide ($H_2S$) | Unclassified |
| Vinyl Chloride | Unclassified |
| Visibility Reducing Particles | Unclassified |

*Source: California Air Resources Board, "Area Designations Maps/State and National," http://www.arb.ca.gov/desig/adm/adm.htm. 2013*

[1] *CARB has not issued area classifications based on the new state 8-hour standard. The previous classification for the 1-hour ozone standard was Serious.*

### *Toxic Air Contaminants*

California law defines toxic air contaminants (TACs) as air pollutants which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. A total of 245 substances have been designated TACs under California law; they include the federal HAPs adopted as TACs in accordance with Assembly Bill 2728. The Air Toxics Hot Spots Information and Assessment Act of 1987, Assembly Bill 2588 (AB 2588), seeks to identify and evaluate risk from air toxics sources; AB 2588 does not regulate air toxics emissions directly. Under AB 2588, sources emitting more than 10 tons per year of any criteria air pollutant must estimate and report their toxic air emissions to the local air districts. Local air districts then prioritize facilities on the basis of emissions, and high priority facilities are required to submit a health risk assessment and communicate the results to the affected public. Depending on risk levels, emitting facilities are required to implement varying levels of risk reduction measures. The BAAQMD is responsible for implementing AB 2588 in the SFBAAB.

The BAAQMD is currently working to control TAC impacts from local hot spots and from ambient background concentrations. The control strategy involves reviewing new sources to ensure compliance with required emission controls and limits, maintaining an inventory of existing sources to identify major TAC emissions and developing measures to reduce TAC emissions. The BAAQMD publishes the results of the various control programs in an annual report, which provides information on the current TAC inventory, AB 2588 risk assessments, TAC monitoring programs, and TAC control measures and plans.

One of the TACs being controlled by the BAAQMD is particulate matter from diesel-fueled engines, also known as diesel particulate matter (DPM). Compared to other TACs, DPM emissions are estimated to be responsible for about 70 percent of the total ambient air toxics risk in the SFBAAB. On a statewide basis, the average potential cancer risk associated with these emissions is over 500 potential cancer cases per million exposed persons. In addition to these general risks, DPM can also present elevated localized or near-source exposures. Depending on the activity and nearness to receptors, these potential risks can range from a low number to 1,500 cancer cases per million exposed persons (CARB 2015).

### 4.1.3.3 Bay Area Air Quality Management District

Management of air quality in the SFBAAB is the responsibility of the BAAQMD. The BAAQMD is responsible for bringing and/or maintaining air quality in the SFBAAB within federal and state air quality standards. Specifically, the BAAQMD has responsibility for monitoring ambient air pollutant levels throughout the SFBAAB and developing and implementing attainment strategies to ensure that future emissions will be within federal and state standards. The following plans have been developed by the

BAAQMD to achieve attainment of the federal and state ozone standards. The Clean Air Plan (CAP) and Ozone Strategy fulfill the planning requirements of the CCAA, while the Ozone Attainment Plan fulfills the federal CAA requirements.

### *Clean Air Plans*

The CCAA requires air districts within nonattainment areas to prepare triennial assessments and revisions to their Clean Air Plans (CAPs). The BAAQMD has prepared a series of CAPs, the most recent and rigorous of which was adopted in September 2010 (BAAQMD 2010). The 2010 CAP continues the air pollution reduction strategy established by the 1991 CAP and represents the fourth triennial update to the 1991 CAP, following previous updates of 1994, 1997, and 2000. The 2010 CAP is designed to address attainment of the state standard for ozone, particulate matter, air toxics, and greenhouse gases. CAPs are intended to focus on the near-term actions through amendments of existing regulations and promulgation of new District regulations.

The Bay Area 2010 CAP provides a comprehensive plan to improve Bay Area air quality and protect public health. The 2010 CAP defines a control strategy that the BAAQMD and its partners will implement to: (1) reduce emissions and decrease ambient concentrations of harmful pollutants; (2) safeguard public health by reducing exposure to air pollutants that poses the greatest health risk, with an emphasis on protecting the communities most heavily impacted by air pollution; and (3) reduce greenhouse gas emissions to protect the climate. The 2010 CAP is designed to update the most recent ozone plan, the BAAQMD 2005 Ozone Strategy, to comply with state air quality planning requirements as codified in the California Health and Safety Code. State law required the CAP to include all feasible measures to reduce emissions of ozone precursors and to reduce transport of ozone precursors to neighboring air basins.

The SFBAAB was designated as non-attainment for the national 24-hour PM2.5 standard, and was required to prepare a PM2.5 State Implementation Plan (SIP) pursuant to federal air quality guidelines by December 2012. However, in January 2013, the US EPA issued a final ruling that the Bay Area had attained the PM2.5 standard, and was therefore not required to submit a SIP as long as monitoring data shows that the Bay Area attains the standard. The SFBAAB will continue to be designated "nonattainment" until the BAAQMD submits a re-designation request and that request is approved by the US EPA. The 2010 CAP is not a SIP document and does not respond to federal requirements for PM2.5 or ozone planning. However, in anticipation of future PM2.5 planning requirements, the CAP control strategy also aims to reduce PM emissions and concentrations. In addition, US EPA is currently reevaluating national ozone standards, and is likely to tighten those standards in the near future. The 2010 CAP updates the BAAQMD's most recent state ozone plan, the 2005 Ozone Strategy, by addressing new emerging challenges and opportunities. The 2010 CAP control strategy includes revised,

updated, and new measures in the three traditional control measure categories: Stationary Source Measures, Mobile Source Measures, and Transportation Control Measures. In addition, the CAP identifies two new categories of control measures: Land Use and Local Impact Measures, and Energy and Climate Measures (BAAQMD 2010). The control measures in the CAP will also help in the SFBAAB's continuing effort to attain national ozone standards.

### *2001 Ozone Attainment Plan*

The BAAQMD developed the 2001 Ozone Attainment Plan as a guideline to achieve the then federal 1-hour ozone standard (BAAQMD 2001). The 2001 Ozone Attainment Plan was approved by CARB in 2001 and by the US EPA in 2003. In April 2004, the US EPA determined the SFBAAB had attained the federal 1-hour ozone standard. Due to the attainment status of the SFBAAB, the 1-hour ozone requirements set forth in the 2001 Ozone Attainment Plan were not required anymore. A year later, in 2005, the federal 1-hour ozone standard was revoked by the US EPA for a new and more health-protective 8-hour standard. The SFBAAB was designated as marginal nonattainment for the federal 8-hour ozone standard. Although designated as nonattainment, areas designated as marginal nonattainment or less were not required to submit new attainment plans. Nonetheless, the control measures and strategies described in the 2001 Ozone Attainment Plan for the 1-hour standard will also help achieve attainment with the 8-hour standard.

### *BAAQMD Rules and Regulations*

Specific rules and regulations have been adopted by the BAAQMD that limit emissions that can be generated by various uses and/or activities. These rules regulate not only the emissions of the state and federal criteria pollutants, but also the emissions of TACs. The rules are also subject to ongoing refinement by the BAAQMD.

In general, all stationary sources with air emissions are subject to the BAAQMD's rules governing their operational emissions. Some emissions sources are further subject to regulation through the BAAQMD's permitting process. Through this permitting process, the BAAQMD also monitors the amount of emissions being generated by stationary sources and uses this information in developing the CAP. A few of the primary BAAQMD rules applicable to the proposed project include, among others, the following:

- **Regulation 8, Rule 3 (Architectural Coatings):** This rule sets limits on reactive organic gases (ROG) content in architectural coatings sold, supplied, offered for sale, or manufactured within the BAAQMD's jurisdiction. The rule also includes time schedules that specify when more stringent ROG standards are to be enforced. The rule applies during the construction phase of a project. In addition, any periodic architectural coating maintenance operations are required to comply with this rule.

- **Regulation 8, Rule 15 (Emulsified and Liquid Asphalts):** This rule sets limits on the ROG content in emulsified and liquid asphalt used for maintenance and paving operations. The rule includes specific ROG content requirements for various types of asphalt (e.g., emulsified asphalt, rapid-cure liquid asphalt, slow-cure liquid asphalt). This rule applies during the construction phase of a project. In addition, any future asphalt maintenance of a project's roads would be required to comply with the ROG standards set in Rule 15.

- **Regulation 8, Rule 40 (Aeration of Contaminated Soil and Removal of Underground Storage Tanks)**: This rule limits the emission of organic compounds from soil that has been contaminated by organic chemical or petroleum chemical leaks or spills. This rule is also set forth to describe an acceptable procedure for controlling emissions from underground storage tanks during removal or replacement. The rule applies to soil which has an organic content exceeding 50 ppmw or which registers an organic concentration greater than 50 ppmv. Any Underground Storage Tank that previously contained any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, is subject to the rule.

- **Regulation 9, Rule 6 (Nitrogen Oxide Emission from Natural Gas-Fired Water Heaters):** This rule sets a limit on the $NO_X$ emissions from natural gas-fired water heaters. The rule applies to natural gas-fired water heaters manufactured after July 1, 1992 with a heat input rating of less than 75,000 BTU/hour. Water heaters subject to the rule must not emit more than 40 nanograms of $NO_X$ per joule of heat output.

- **Regulation 9, Rule 7 (Nitrogen Oxide and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters):** This rule limits the $NO_X$ and CO emissions from industrial, institutional, and commercial boilers, steam generators, and process heaters. The rule applies to boilers with a heat input rating greater than 10 million BTU/hour fired exclusively with natural gas, liquefied petroleum gas, or a combination or boilers with a heat input rating greater than 1 million BTU/hour fired with other fuels.

- **Regulation 9, Rule 8 (Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines):** This rule limits the $NO_X$ and CO emissions from stationary internal combustion engines. The rule applies to engines rated at greater than 50 brake horsepower, but it exempts emergency generators that would not run for more than 100 hours per year.

### *BAAQMD CEQA Guidelines*

In April 1996, the BAAQMD prepared its *BAAQMD California Environmental Quality Act (CEQA)*

*Guidelines* as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. On June 2, 2010, the BAAQMD adopted updated *CEQA Air Quality Guidelines*, which were again updated in May 2011. These guidelines describe the criteria that the BAAQMD proposed for use when reviewing and commenting on the adequacy of documents prepared under CEQA, such as this Draft EIR. The updated BAAQMD *CEQA Air Quality Guidelines* include recommended thresholds for use by Bay Area lead agencies in determining whether the proposed projects would have significant adverse air quality impacts, methodologies for predicting project emissions and impacts, and recommended measures that can be used to avoid or reduce significant air quality impacts.

The significance thresholds under the BAAQMD's *CEQA Air Quality Guidelines* were challenged by the California Building Industry Association. A March 2012 Alameda County Superior Court judgment determined that the BAAQMD had failed to evaluate the environmental impacts of the land use development patterns that would result from adoption of the thresholds and ordered the thresholds set aside. Although the Court of Appeal reversed that judgment, the California Supreme Court is currently reviewing the limited issue of whether CEQA requires an analysis of the environment's impact on a project. The BAAQMD currently does not recommend any specific threshold. Instead, the BAAQMD recommends that the lead agency should "determine appropriate air quality thresholds of significance based on substantial evidence in the record (BAAQMD 2014)." The Court did not rule on or question the adequacy of the evidentiary basis supporting the significance thresholds that are contained in the *CEQA Air Quality Guidelines* and the BAAQMD-recommended impact assessment methodologies. Therefore, a lead agency has the discretion to use the significance thresholds and methodology for analyzing air quality impacts under CEQA based on the evidence and technical studies supporting the guidelines. The City has consistently utilized the methodologies and thresholds in the *CEQA Air Quality Guidelines* in its environmental documents.

### 4.1.3.4 Local Plans and Policies

#### *City of Santa Clara General Plan*

The City of Santa Clara General Plan contains goals and policies relating to air quality (criteria air pollutants and toxic air contaminants). General Plan goals and policies relevant to the proposed project are as follows:

**Air Quality Goals**

**Goal 5.10.2-G1** Improved air quality in Santa Clara and the region.

**Air Quality Policies**

**Policy 5.10.2-P1** Support alternative transportation modes and efficient parking mechanisms to improve air quality.

**Policy 5.10.2-P2** Encourage development patterns that reduce vehicle miles traveled and air pollution.

**Policy 5.10.2-P3** Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.

**Policy 5.10.2-P5** Promote regional air pollution prevention plans for local industry and businesses.

**Policy 5.10.2-P6** Require "Best Management Practices" for construction dust abatement.

## 4.1.4 IMPACTS AND MITIGATION MEASURES

### 4.1.4.1 Significance Criteria

For the purposes of this Draft EIR, air quality impacts of the proposed project would be considered significant if they would exceed the following Standards of Significance, which are based on Appendix G of the *State CEQA Guidelines* and the BAAQMD *CEQA Air Quality Guidelines*. According to Appendix G of the *State CEQA Guidelines*, a project would normally have a significant impact on air quality if it would:

- conflict with or obstruct implementation of the applicable air quality plan;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- expose sensitive receptors to substantial pollution concentrations; or
- create objectionable odors affecting a substantial number of people.

The BAAQMD *CEQA Air Quality Guidelines* quantify these thresholds with defined numeric values and evaluation criteria for pollutant emissions. As noted above, although the Court of Appeal ruling with

respect to the *CEQA Air Quality Guidelines* has been appealed and the Supreme Court has granted the petition for review, the City has decided that it will use the methodological approach and numeric thresholds in BAAQMD *CEQA Air Quality Guidelines* to determine whether the impacts of the proposed project exceed the thresholds identified in Appendix G of the *State CEQA Guidelines*. The BAAQMD's evaluation criteria for determining air quality impacts provide defined thresholds for pollutant emissions. These quantitative thresholds for air quality impact evaluation from the BAAQMD *CEQA Air Quality Guidelines* are presented below.

## *Construction Emissions*

Impacts related to construction emissions associated with the proposed project would be considered significant if the construction emissions exceeded the thresholds listed in **Table 4.1-5, Average Daily Construction Emission Thresholds**.

**Table 4.1-5**
**Average Daily Construction Emission Thresholds**

| Criteria Air Pollutants | Average Daily Emissions (Pounds per Day) |
|---|---|
| ROG | 54 |
| $NO_x$ | 54 |
| PM10 (Exhaust) | 82 |
| PM2.5 (Exhaust) | 54 |

*Source: Bay Area Air Quality Management District, CEQA Air Quality Guidelines, May 2011.*

## *Operational Emissions*

Impacts from direct and/or indirect operational emissions associated with the proposed project would be considered significant if they exceeded the daily or the annual emissions thresholds in **Table 4.1-6, Operational Emission Thresholds**.

**Table 4.1-6**
**Operational Emission Thresholds**

| Criteria Air Pollutants | Average Daily Emissions (Pounds per Day) | Maximum Annual Emissions (Tons per Year) |
|---|---|---|
| ROG | 54 | 10 |
| $NO_X$ | 54 | 10 |
| PM10 | 82 | 15 |
| PM2.5 | 54 | 10 |

*Source: Bay Area Air Quality Management District, CEQA Air Quality Guidelines, May 2011.*

Direct emissions are those that are emitted on a site and include emissions from stationary sources and on-site mobile equipment, if applicable. Examples of land uses and activities that generate direct emissions are industrial operations and sources subject to an operating permit by the BAAQMD. Indirect emissions come from mobile sources that access the project site, but generally are emitted off-site. For many types of land development projects, the principal source of air pollutant emissions is the motor vehicle trips generated by the project.

## *Toxic Air Contaminant Emissions*

### Single Source Impact Threshold

If project emissions of TACs or PM2.5[2] during construction or project operation cause an existing sensitive receptor to be exposed to levels that exceed any of the thresholds of significance listed below, the proposed project would result in a significant impact and mitigation would be required. Exposure of project site sensitive receptors to TAC levels that exceed the thresholds of significance listed below would also result in a significant impact and require mitigation.

- An excess cancer risk level of more than 10 in 1 million, or a non-cancer (chronic or acute) hazard index greater than 1.0.

2 One of the TACs being controlled by the BAAQMD is particulate matter from diesel-fueled engines, also known as diesel particulate matter (DPM). Compared to other TACs, DPM emissions are estimated to be responsible for about 70 percent of the total ambient air toxics risk in the Basin. DPM is emitted in equipment and vehicle exhaust in the form of PM2.5 emissions. The BAAQMD *CEQA Air Quality Guidelines* therefore include a concentration-based threshold for PM2.5 emitted during construction and operation of a proposed project.

- An incremental increase of more than 0.3 micrograms per cubic meter (μg/m$^3$) annual average PM2.5.

**Cumulative Source Impact Threshold**

A project would have a cumulatively considerable impact if the aggregate total of human health risks from all past, present, and foreseeable future TAC sources within a 1,000-foot radius of the fence line of a source or from the location of a receptor, plus the contribution from the project, exceeds the following thresholds.

- An excess cancer risk level of more than 100 in 1 million or a chronic non-cancer hazard index (from all local sources) greater than 10.0.
- 0.8 μg/m$^3$ annual average PM2.5.

### *Odors*

For impacts associated with odors, the BAAQMD considers project operations that result in five confirmed complaints per year averaged over three years to have a significant impact.

### *Local Carbon Monoxide Concentrations*

The impact associated with a project's indirect CO emissions is considered significant if the emissions will contribute to a violation of the state standards for CO (9.0 ppm averaged over 8 hours and 20 ppm over 1 hour).

## 4.1.4.2 Methodology

***Construction Emissions of Criteria Pollutants***

The California Emissions Estimator Model (CalEEMod) Version 2013.2.2 was used to predict emissions from the construction of the proposed project. Average daily emissions from project construction were calculated, including both on-site and off-site activities. On-site activities would consist of the operation of off-road construction equipment, as well as on-site truck travel (e.g., haul trucks, water trucks, dump trucks, and concrete trucks), whereas off-site sources would be emissions from construction vehicle trips. For more information on model inputs and assumptions, see **Impact AIR-1** below.

***Operational Emissions of Criteria Pollutants***

CalEEMod was also used to predict emissions from the operation of the proposed project. The use of this model for evaluating air pollutant emissions from land use projects is recommended by the BAAQMD.

The project land use types and size, trip generation rate and other project-specific information were input to the model to estimate operational emissions. For more information on model inputs and assumptions, see **Impact AIR-2** below.

***Operational CO Impact***

The BAAQMD recommends CO modeling for a plan or a project if the addition of project traffic would increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. No intersections affected by the proposed project would handle more than 44,000 vehicles per hour, and so no CO modeling is required.

***Community Health Risk Impacts***

The methodology used to assess community health risk impacts from exposure to TAC emissions is described under **Impact AIR-5**.

### 4.1.4.3 Project Impacts and Mitigation Measures

**Impact AIR-1:** **Construction activities associated with the proposed project would not result in a violation of an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment under an applicable national or state ambient air quality standard (including resulting in emissions which exceed quantitative thresholds for ozone precursors), but would result in substantial fugitive dust emissions. (*Significant; Less than significant with Mitigation*)**

Construction activities associated with the proposed project would result in short-term emissions of criteria pollutants from the operation of construction equipment and vehicles and emissions of fugitive dust during demolition, site excavation, management of soil or groundwater impacted as a result of previous industrial or commercial land uses, utility trenching, grading, and construction. The project's construction emissions are estimated below and evaluated for their potential to result in a significant impact on air quality. CalEEMod was used to estimate emissions from the construction of the proposed project assuming full build out. Project description information, adjustments to the model, and assumptions used in the modeling are summarized below.

#### *Construction Schedule and Equipment*

It is anticipated that the proposed project would be constructed over a period of about 30 months, from

July 2016 through December 2018. Assuming 22 construction days per month, there would be 660 workdays. The construction schedule, estimated hauling volumes, and anticipated on-site construction equipment used for the emission calculations are shown in **Appendix 4.1**.

The anticipated 1,816 one-way hauling trips for demolition, along with 8,600 cement truck trips and 600 asphalt truck trips were entered into the model. For vendor, worker, and haul truck one-way trips, lengths of 7.3 miles, 12.4 miles, and 20 miles, respectively were used. These are the default trip lengths assumed in the CalEEMod model. Concrete truck trips were assumed to be 7.3 miles (vendor trip length).

Default architectural coating emission inputs were used in terms of the volatile organic compound (VOC) content in paints. Refined emissions modeling of PM2.5 from on-site activities was performed as part of the construction health risk assessment addressed later under **Impact AIR-4**.

### *Estimated Criteria Pollutant Emissions*

Average daily emissions were computed by estimating the total emissions over the three-year construction period and dividing that number by the total number of construction days. The number of construction days was computed at 660, assuming 22 days per month and 30 months of construction. **Table 4.1-7, Unmitigated Mission Town Center Project Construction Emissions,** shows the average daily construction emissions of ROG, NOX, PM10 exhaust, and PM2.5 exhaust from the construction of the proposed project. As indicated in **Table 4.1-7**, estimated average daily project construction emissions would not exceed the thresholds for ROG, NOx, PM10, and PM2.5. Therefore, the impact associated with construction-period emissions of criteria pollutants would be less than significant.

**Table 4.1-7**
**Unmitigated Mission Town Center Project Construction Emissions**

| | Average Daily Emissions | | | |
|---|---|---|---|---|
| **Scenario** | **ROG** | **NOx** | **PM10 Exhaust** | **PM2.5 Exhaust** |
| Average Daily Emissions (lbs/day) [1] | 15.7 | 17.8 | 0.6 | 0.6 |
| Thresholds (lbs/day) | 54 | 54 | 82 | 54 |
| Exceeds Threshold? | **No** | **No** | **No** | **No** |

*Source: Illingworth & Rodkin, Inc., 2015*
[1] *based on 660 construction days*

### *Fugitive Dust Emissions*

Construction activities, particularly during site preparation and remediation, utility trenching, and grading, would temporarily generate fugitive dust, including PM10 and PM2.5 emissions. Sources of fugitive dust would include disturbed soils at the construction site during grading and soil remediation and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. Fugitive dust emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. Fugitive dust emissions would also depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site. The *CEQA Air Quality Guidelines* consider the impact from a project's construction-phase dust emissions to be less than significant if best management practices listed in the guidelines are implemented. Without these BMPs, the impact from fugitive dust emissions would be potentially significant. Furthermore, as discussed under **Impact HAZ-2**, the project site contains a number of areas where soils and groundwater are contaminated as a result of previous land uses and exposure to this on-site contamination during construction could affect human health.

**Mitigation Measure AIR-1** is proposed, which requires that the dust control and other BMPs put forth by the BAAQMD are implemented by the proposed project. In addition, in the unlikely event that an underground storage tank or soils contaminated with volatile organic compounds are exposed during construction, the project applicant will comply with BAAQMD Regulation 8, Rule 40, "Aeration of Contaminated Soil and Removal of Underground Storage Tanks," which limits the emissions of organic compounds from soil that has been contaminated by organic chemical or petroleum chemical leaks or spills and outlines procedures for controlling such emissions. Finally, **Mitigation Measures HAZ-2a** through **HAZ-2d** would be implemented, which require the development and implementation of a site management plan or similar response plan that includes protection of construction workers from exposure to impacted soil and groundwater through measures included in a health and safety plan.

With the implementation of the BAAQMD-recommended BMPs pursuant to **Mitigation Measure AIR-1a,** and **Mitigation Measure AIR-1b** which implements **Mitigation Measures HAZ-2a** through **2d**, the construction of the proposed project would not result in substantial emissions of fugitive dust, PM10 or PM2.5, and the impact associated with construction-period emissions of fugitive dust, PM10 and PM2.5 would be less than significant.

**Mitigation Measures:**

**AIR-1a** The construction contractor(s) shall implement the following BMPs during project construction:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible and feasible. Building pads shall be laid as soon as possible and feasible after grading, unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

**AIR-1b** Implement **Mitigation Measures HAZ-2a** through **HAZ-2d**.

**Significance after Mitigation**: Less than significant

---

**Impact AIR-2:** **Operation of the proposed project would not result in a violation of an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment under an applicable national or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). (*Less than Significant*)**

Operational air emissions from the project would be generated primarily from automobiles driven by future residents and employees. Other sources of operational emissions are architectural coatings and maintenance products, consumer products, and energy use on the project site, including the combustion of natural gas in stoves, heaters, and boilers. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build out.

The project would replace office, residential, and commercial uses that would no longer generate emissions, both on-site as well as off-site. The emissions associated with the existing land uses were also modeled using CalEEMod and then subtracted from the project's operational emissions to estimate the net increase in emissions due to the proposed project. The CalEEMod operational emissions modeling outputs are provided in **Appendix 4.1**. Project description information, adjustments to the model, and assumptions used in the modeling are summarized below.

### *Land Use Descriptions*

Project land uses inputs used in CalEEMod to model operational emissions from the entire project are as follows:

- 385 dwelling units: "Apartments Mid Rise," 358,050 sf, population: 1,036 persons
- 27,000 sf "Strip Mall," retail, population: 68 workers
- 6,000 sf "Health Club," amenities, population: 0
- 4,000 sf "General Office Building," leasing office, population: 10 workers
- 848 parking spaces: "Enclosed Parking with Elevator"

## *Year of Analysis*

Emissions associated with vehicle travel depend on the year of analysis because emission control

technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates used by CalEEMod. The earliest year the project could possibly be constructed and fully occupied would be 2019. Emissions associated with build-out later than 2019 would be lower, because newer vehicles have to meet increasingly more stringent emissions standards, while older, more polluting, vehicles are retired. Year 2019 was used to estimate operational emissions.

### *Trip Generation Rates*

CalEEMod allows the user to enter specific vehicle trip generation rates, which were inputted into the model using the generation rate of 2,440 daily trips provided in the project traffic report. Weekend rates used in CalEEMod were adjusted proportionally to the weekday rate. The project daily trip generation took into account reductions of 34 percent for the mix of uses and proximity to local and regional employment. There were no additional reductions taken for transportation demand management programs or for proximity to alternative transportation pathways (e.g., bicycle/pedestrian trails). The default trip lengths and trip types specified by CalEEMod were used.

### *Area Sources*

Adjustments were made to the area source inputs of CalEEMod. These include an adjustment that no residences would use wood-burning stoves or fireplaces, because wood burning stoves and fireplaces are expressly excluded from the proposed project. All fireplaces were assumed to be natural-gas fired. Wood burning fireplaces and woodstoves were set to 0.

No adjustments were made in CalEEMod for consumer products.[3] However, CalEEMod computes emissions associated with consumer products for all land uses, regardless of their types. This is an unrealistic default assumption because certain land uses (e.g., parking structures) are not associated with the use of consumer products. For this analysis, the parking structure is not considered a source of consumer product ROG emissions. To correct for this assumption, a separate model run for the parking structure was developed to compute the consumer product emissions that the model erroneously generates for parking structures. These emissions were subtracted from the project's modeled emissions.

The BAAQMD threshold of significance for ROG established the emission levels at which a project's

---

3 Per the CalEEMod User's Guide: Consumer products are chemically formulated products used by household and institutional consumers, including, but not limited to, detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products.

individual emissions would be cumulatively considerable on a regional scale.[4] Consumer products used at a project site are calculated as part of the project's emissions even though many residents of the project will relocate from other parts of the SFAAB. Therefore, the methodology for calculating cumulative significance tends to overestimate ROG emissions and is considered highly conservative.

### *Energy Efficiency*

The 2013 Title 24 Building Standards became effective in 2014 and are projected to result in 25 percent less energy for lighting, heating, cooling, ventilation, and water heating as compared to the 2008 standards that CalEEMod energy consumption rates are based upon.[5] Therefore, the CalEEMod runs were adjusted to account for the greater energy efficiency that is required by law.

### *Existing Land Uses*

Emissions associated with the existing land uses on the project site were modeled as if they were to continue operating at full occupancy in 2019. The land uses for 6 residential units as "Single Family Housing," 4 residential units as "Apartments," 5,330 sf of "General Office Building," 3,890 sf of "High Turnover (Sit Down Restaurant)," 3,890 sf of "Automobile Care Center," and 88,100 sf of "Unrefrigerated Warehouse-No Rail" were entered into CalEEMod. The daily trip generation predicted in the traffic study for the existing land uses, 715 daily trips with mixed-use reductions of 18 percent, was entered into CalEEMod. Weekend rates were adjusted proportionally. All other CalEEMod defaults were used to compute the emissions from the existing uses.

### *Operational Emissions in 2019*

**Table 4.1-8, Mission Town Center Project Operational Emissions,** shows the projected operational emissions in terms of annual emissions in tons and average daily emissions in pounds per day, assuming 365 days of operation per year. Average daily emissions are reported as net emissions, where emissions from existing land uses are subtracted from the proposed project emissions. As shown in **Table 4.1-8**, average daily and annual emissions of ROG, NOx, PM10, or PM2.5 emissions associated with operation would not exceed the significance thresholds. Therefore, the project's impact is considered less than significant.

---

4 BAAQMD. 2011. BAAQMD CEQA Air Quality Guidelines. May. See page 2-1.

5 California Energy Commission. 2012. *2013 Building Energy Efficiency Standards FAQ*. May.

**Table 4.1-8**
**Mission Town Center Project Operational Emissions**

| Emissions Source | | Estimated Emissions ROG | NOx | PM10 Exhaust | PM2.5 Exhaust |
|---|---|---|---|---|---|
| Annual Existing Emissions (operating in 2019) [1] | | -0.91 | -0.70 | -0.50 | -0.15 |
| Annual Project Operational Emissions [1] | | 4.56 | 2.43 | 1.86 | 0.54 |
| Adjustment for Parking Structure ROG [1, 3] | | -1.32 | n/a | n/a | n/a |
| ***Net Annual Emissions in 2019*** [1] | | ***2.33*** | ***1.73*** | ***1.36*** | ***0.39*** |
| *Annual Thresholds (in tons)* | | *10* | *10* | *15* | *10* |
| | ***Exceeds Threshold?*** | ***No*** | ***No*** | ***No*** | ***No*** |
| Net Average Daily Emissions (lbs./day) [2] | | 12.8 | 9.5 | 7.5 | 2.1 |
| *Daily Thresholds (in lbs.)* | | *54* | *54* | *82* | *54* |
| | ***Exceeds Threshold?*** | ***No*** | ***No*** | ***No*** | ***No*** |

*Source: Illingworth & Rodkin, Inc., 2015*
[1] *in tons*
[2] *Assumes 365-day operation.*
[3] *Due to the manner in which it is set up, CalEEMod estimates emissions of ROG from consumer products for all building structures. Because consumer products would not be used in the parking structure, the emissions were subtracted.*

**Appendix 4.1** to this Draft EIR includes the operational CalEEMod model output files for the proposed project and the existing land uses.

**Mitigation Measures:** No mitigation measures are required.

---

**Impact AIR-3: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan. (*Less than Significant*)**

As noted above, the 2010 Clean Air Plan, adopted by the BAAQMD in September 2010, is the air quality plan that is applicable to the nine-county air basin. That plan includes an emissions inventory that is based on projected growth within the Bay Area counties and cities. Because 2010 Clean Air Plan was developed before the City of Santa Clara updated its 2014 Housing Element and related Land Use Policies, the Clean Air Plan may not fully reflect the projected population and employment growth for the City of Santa Clara, including the growth associated with the proposed project.

There are several aspects of the proposed project that demonstrate that the project would not conflict with the Clean Air Plan nor obstruct its implementation. As discussed in **Impact AIR-1** and **AIR-2**, the

project would result in emissions below the criteria air pollutant significance thresholds. The development of the project site would be considered urban "infill." The project would put housing in a central portion of the Bay Area and in close proximity of transit with regional connections. Net emissions from the project would not exceed any of the significance thresholds and, thus, the project is not required to incorporate project-specific transportation control measures listed in the latest Clean Air Plan. In addition, as shown by the analysis in **Section 4.3, Greenhouse Gas Emissions**, the project is generally consistent with, and would help achieve the goals of the Plan Bay Area Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) adopted in 2013 and the City of Santa Clara's Climate Action Plan. For all of these reasons, the proposed project would not conflict with the Clean Air Plan nor obstruct its implementation. The impact would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

**Impact AIR-4:** **Project construction activities and operations would expose existing or future sensitive receptors to substantial pollutant concentrations. (*Significant; Less than Significant with Mitigation*)**

Project construction activities and vehicular traffic generated by project operations would have the potential to expose sensitive receptors to substantial pollutant concentrations. The potential for each of these impacts is evaluated below.

## *Exposure to Pollutant Concentrations during Construction*

Construction activity for the proposed project would include the demolition of existing buildings, site grading, placement of utilities, building construction, paving, application of architectural coatings, and interior finishing. Construction equipment and associated heavy-duty truck traffic generates exhaust which contains diesel particulate matter (DPM), which is a known TAC. The BAAQMD recommends that the impact from DPM is evaluated by estimating a project's fine particulate matter or PM2.5 emissions and resulting concentrations (BAAQMD 2012). The BAAQMD *CEQA Air Quality Guidelines* recommend modeling of PM2.5 concentrations if sensitive receptors are present within 1,000 feet of a construction site to determine whether nearby sensitive receptors (which are defined as residences, day care centers, schools and elderly care facilities) could be exposed to substantial concentrations of DPM, resulting in community health risk impacts. The closest off-site sensitive receptors are residences adjacent to the western boundary of the project site. Additional nearby residences are located across from the project site on The Alameda and Benton Street and at farther distances from the site. Thus, a community health risk assessment was conducted that evaluated the effect of emissions of DPM during project construction.

Emissions were estimated and dispersion modeling was conducted to predict the off-site concentrations resulting from project construction, so that lifetime excess cancer risks and non-cancer health effects could be predicted.

Health risks were evaluated for a hypothetical maximally exposed individual (MEI) located in the nearby residential buildings. The hypothetical MEI is an individual assumed to be located where the highest concentrations of air pollutants are predicted to occur. Health risks potentially associated with concentrations of TACs were calculated as estimated lifetime excess cancer risks. The lifetime excess cancer risk for a pollutant is estimated as the product of a lifetime dose and the cancer potency factor derived by the Office of Environmental Health Hazard Assessment (OEHHA). In other words, it represents the increased cancer risk associated with continuous exposure to the concentrations of TAC in the air over a 70-year lifetime. Excess cancer risk calculations were adjusted to reflect the greater sensitivity of infants and small children by applying the age-sensitivity factors put forth by BAAQMD. The BAAQMD screening cancer risks are also based on 70-year lifetime exposures with adjustments for infants and childhood sensitivity.

Evaluation of potential non-cancer health effects from exposure to short-term and long-term concentrations in the air was performed by comparing modeled concentrations in air with the reference exposure levels (RELs). A REL is a concentration in the air at or below which no adverse health effects are anticipated. RELs are based on the most sensitive adverse effects reported in the medical and toxicological literature. Potential non-cancer effects were evaluated by calculating a ratio of the modeled concentration in the air and the REL. This ratio is referred to as a hazard quotient/index (HI). The cancer potency factors, unit risk values, and RELs used to characterize health risks associated with modeled concentrations in the air were obtained from information set forth by the BAAQMD and the California OEHHA.

Figure 1 in **Appendix 4.1** shows the project site, sensitive receptor locations (residences) used in the air quality dispersion modeling analysis where potential health impacts were evaluated, and location of maximally exposed individual.

On-site construction-phase DPM emissions were computed using the CalEEMod model. Inputs to the model are described under **Impact AIR-1**. The number and types of construction equipment and diesel vehicles, along with the anticipated length of their use, were based on a site-specific construction activity schedule (see **Appendix 4.1**). For evaluating excess cancer risk, non-cancer risk, and annual PM2.5 impacts from construction, emissions from truck traffic on or near the site were included in the modeling. The CalEEMod model was run with trip lengths of 0.5 mile to represent on-site truck emissions. Emissions from construction truck traffic along El Camino Real (SR-82) within 1,000 feet of the project site

were calculated using emission factors from EMFAC2011. Construction of the proposed project is anticipated to occur over an approximate 2.5-year period (2016 – 2018). Fugitive PM2.5 dust emissions were calculated by CalEEMod as 0.0727 tons for the overall construction period. The projected construction schedule and the DPM emission calculations are provided in **Appendix 4.1**.

The US EPA AERMOD dispersion model was used to predict concentrations of DPM and PM2.5 at existing residences surrounding the project site. The AERMOD modeling utilized two area sources to represent the on-site construction emissions, one area source for DPM exhaust emissions and one area source for fugitive PM2.5 dust emissions. An emission release height of 6 meters was used for the exhaust emissions from construction equipment. The elevated source height reflects the height of the equipment exhaust pipes and buoyancy of the exhaust plume. For modeling fugitive PM2.5 emissions, a near-ground level release height of 2 meters was used for the area source. Emissions from vehicle travel around the project site were included in the modeled area sources. Emissions were modeled as occurring daily between 7:00 AM and 6:00 PM when a majority of the construction activity involving equipment usage would occur. The model used a five-year data set (2006-2010) of hourly meteorological data from the Mineta San Jose International Airport that was prepared for use with the AERMOD model by the BAAQMD. The airport is about one mile northeast from the project site. Annual DPM and PM2.5 concentrations from construction activities were predicted for 2016 through the end of 2018, with the concentrations for each construction year based on the five years of meteorological data. DPM and PM2.5 concentrations were calculated at nearby residential receptors at a receptor height of 1.5 meters.

A health risk assessment for exposure to TACs requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and CARB developed recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015. These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by state law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods. This health risk assessment used the recent 2015 OEHHA risk assessment guidelines and CARB guidance. While the OEHHA guidelines use substantially more conservative assumptions than the BAAQMD guidelines, BAAQMD has not adopted recommended procedures for applying the newest OEHHA guidelines.[6] The OEHHA guidelines are

6 This evaluation is based on informal BAAQMD recommendations for implementing the most recent OEHHA methods. BAAQMD is in the process of revising their health risk assessment guidelines to incorporate the most recent OEHHA methodology; however, BAAQMD has not formally adopted and provided new guidance.

used here as a conservative measure.

Potential increased cancer risk from inhalation of TACs are calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency of exposure, and the exposure duration over a 70-year lifetime period. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day. As recommended by the BAAQMD, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. Parameters and formulas used to calculate cancer risk can be found in **Appendix 4.1**. Health risk parameters used in this evaluation are summarized in **Table 4.1-9**.

The maximum modeled DPM and PM2.5 concentrations from construction activities occurred at a receptor just south of the site, across Benton Street. The location of this receptor is identified in Figure 1 (in **Appendix 4.1**). Based on the maximum average annual modeled DPM concentration for each year of construction, the maximum increased cancer risk was calculated. Due to the short duration of project construction activities infant exposures were assumed in calculating all cancer risks. Because an infant breathing rate is greater than for the 3rd trimester the contribution to total cancer risk from an infant exposure is greater than if the initial exposure assumed a 3rd trimester exposure.

**Table 4.1-9**
**Health Risk Parameters Used for Cancer Risk Calculations**

| Parameter | Exposure Type<br>Age Range | Infant<br>3rd Trimester | 0<2 | Child<br>2<16 | Adult<br>16-17 |
|---|---|---|---|---|---|
| DPM Cancer Potency Factor (mg/kg-day)[1] | | 1.10E+00 | 1.10E+00 | 1.10E+00 | 1.10E+00 |
| Daily Breathing Rate (L/kg-day)[1] | | 361 | 1,090 | 572 | 233 |
| Inhalation Absorption Factor | | 1 | 1 | 1 | 1 |
| Averaging Time (years) | | 70 | 70 | 70 | 70 |
| Exposure Duration (years) | | 0.25 | 2 | 14 | 54 |
| Exposure Frequency (days/year) | | 350 | 350 | 350 | 350 |
| Age Sensitivity Factor | | 10 | 10 | 3 | 1 |
| Fraction of Time at Home | | 1.0 | 1.0 | 1.0 | 0.73 |

*Source: Illingworth & Rodkin, Inc., 2015*
[1] *95th percentile breathing rates for 3rd trimester and infants and 80th percentile for children and adults.*

Results of this assessment, as shown in **Table 4.1-10, Maximum Community Risks from Project Construction Activities,** indicate that without implementation of **Mitigation Measure AIR-4b** or in the event that a revised HRA is prepared (**Mitigation Measure AIR-4c)**, the maximum residential lifetime excess cancer risk would be 44.9 in 1 million assuming child exposures during the 30 months of construction period. The maximum increased lifetime cancer risk would be above the BAAQMD significance threshold of a cancer risk of 10 in one million or greater, and would be considered a significant impact unless mitigated.

The maximum modeled annual PM2.5 concentration, including fugitive dust and DPM, was 0.4 μg/m3. This PM2.5 concentration is above the BAAQMD significance threshold of 0.3 μg/m3 used to evaluate the significance of health impacts from PM2.5. This would be considered a significant impact unless mitigated.

Potential non-cancer health effects due to chronic exposure to DPM were also evaluated. Non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The chronic inhalation REL for DPM is 5 μg/m3. The maximum modeled annual DPM concentration was 0.24 μg/m3, which is much lower than the REL. The maximum computed HI based on this DPM concentration is 0.05, which is much lower than the BAAQMD significance criterion of a hazard index greater than 1.0. This would be considered a less than significant impact.

**Table 4.1-10**
**Maximum Community Risks without Mitigation from Project Construction Activities**

| Location | Lifetime Cancer Risk (per million) | Annual PM2.5 (μg/m³)[1] | Hazard Index |
|---|---|---|---|
| Maximum Unmitigated Residential | 44.9 | 0.4 | 0.05 |
| *Significance Threshold* | 10 | 0.3 | 1.0 |
| ***Exceeds Threshold?*** | ***Yes*** | ***Yes*** | ***No*** |

*Source: Illingworth & Rodkin, Inc., 2015*
[1] *The annual PM2.5 concentration is the sum of the DPM and fugitive PM2.5 concentrations.*

## *Exposure to Pollutant Concentrations during Project Operation*

Operation of this largely residential project would not generate TAC or PM2.5 emissions on the project site that could affect the health of the community near the project site, because the vast majority of the vehicles associated with the proposed project would operate on gasoline and not diesel which is the primary source of TACs and PM2.5. CO emitted by project traffic is the criteria pollutant that would have the potential to result in substantial pollutant concentrations. Congested intersections with a large volume of traffic have the greatest potential to cause high, localized concentrations of CO. Air pollutant monitoring data indicate that CO levels have been at healthy levels (i.e., below State and federal standards) in the Bay Area since the early 1990s. As a result, the region has been designated as attainment for the standard. There is an ambient air quality monitoring station in San José that measures CO concentrations. The highest measured level over any 8-hour averaging period during the last three years is less than 3.0 ppm, compared to the ambient air quality standard of 9.0 ppm. The project would generate a relatively small amount of new traffic: 2,440 net new trips during the entire day or 191 trips during the busiest hour. BAAQMD screening guidance indicates that the project would have a less than significant impact with respect to CO levels if the addition of project traffic would not increase the total traffic at any affected intersection to more than 44,000 vehicles per hour. The Traffic Impact Assessment prepared for the proposed project shows that the cumulative traffic volumes at all intersections affected by the project would be less than 44,000 vehicles per hour. Therefore, the project will not result in the violation of the CO standards and would not expose sensitive receptors to substantial CO concentrations. The impact would be less than significant.

In summary, project operation would not result in the exposure of sensitive receptors to substantial pollutant concentrations. Project construction would, however, expose nearby sensitive receptors to substantial concentrations of TACs, resulting in a significant community health risk impact unless

mitigated. Implementation of **Mitigation Measures AIR-4a** through **AIR-4c** would reduce the impact with respect to community health risk caused by project construction activities to a less than significant level.

**Mitigation Measures:**

**AIR-4a** Implement **Mitigation Measure AIR-1** to control fugitive dust and on-site construction exhaust emissions.

**AIR-4b** Equipment shall be selected during demolition, grading and trenching construction phases to minimize emissions. Such equipment selection would include the following:

1. All diesel-powered off-road equipment larger than 50 horsepower and operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent; and

2. All diesel-powered portable equipment (i.e., air compressors, concrete saws, and forklifts) operating on the site for more than two days shall meet U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent.

3. As an alternative to measures 1 and 2 above, the construction contractor shall use other measures, or in combination with use of Tier 4 equipment, to minimize diesel particulate matter emissions during construction period, provided such measures reduce the predicted cancer risk below the thresholds and are approved by the City. Any diesel-powered off-road and portable equipment shall meet or exceed emission standards for Tier 2 engines. For example, the construction contractor may use other measures such as the use of alternative powered equipment (e.g., LPG-powered or electric lifts), alternative fuels (e.g., biofuels), added exhaust devices, or a combination of measures.

**AIR-4c** The Applicant may choose to reassess the potential off-site cancer risk and PM2.5 concentration exposures to off-site residential receptors later in the design phase, but prior to the start of construction, and prepare a revised HRA using updated receptor location information and more detailed construction plans and equipment list and submit to the City for review. If the revised HRA demonstrates, to the satisfaction of the City, that the cancer risk and exposure to PM2.5 for all potentially exposed off-site receptors will be less than BAAQMD project-level thresholds, then **Mitigation Measure AIR-4b** is unnecessary. If the revised HRA demonstrates, to the satisfaction of the City,

that the cancer risk or exposure to PM2.5 for off-site sensitive receptors will be less than presented in this analysis but still over BAAQMD thresholds, then the mitigation effort may be proportionately adjusted.

**Significance after Mitigation: Mitigation Measure AIR-4a**, which requires the implementation of **Mitigation Measure AIR-1,** would reduce exhaust emissions by 5 percent and fugitive dust emissions by more than 50 percent. With the implementation of **Mitigation Measure AIR-4b,** the computed maximum lifetime excess residential cancer risk under conservative assumptions would be reduced to less than 2.7 in one million, which is below the BAAQMD threshold of 10 per one million. PM2.5 concentrations would be reduced to 0.1 μg/m3, which is below the BAAQMD significance threshold of 0.3 μg/m3. Alternatively, if the Applicant chooses to reassess the project's construction-phase health risk impacts, as stated in **Mitigation Measure AIR-4c**, and the revised HRA concludes that the cancer risk and exposure to PM2.5 for all potentially exposed off-site receptors will be less than BAAQMD project-level thresholds, then impacts would be less than significant. Therefore, with the implementation of **Mitigation Measures AIR-4a** through **AIR-4c,** this impact would be reduced to a less than significant level.

---

**Impact AIR-5:** **Project operation would expose project sensitive receptors to substantial pollutant concentrations.** ***(Significant; Less than Significant with Mitigation)***

The proposed project includes residences that are considered sensitive receptors.[7] There are existing sources of TAC emissions near the site that could adversely affect these project site receptors. The effects of these sources on the project site receptors were analyzed in three categories: (1) effects of nearby roadways, (2) effects of nearby railways, and (3) effects of stationary sources. Utilizing the guidance in the BAAQMD *CEQA Air Quality Guidelines*, TAC sources within 1,000 feet of the project site were identified and evaluated. These sources are shown in Figure 3 in **Appendix 4.1.**

Effects from exposure to TAC emissions associated with El Camino Real and the nearby railroad were

---

7 The effect of the environment on the project (also called "CEQA in reverse") is a matter of debate at the present time. There have been a number of court decisions in recent years, including the *Ballona Wetlands Land Trust v. City of Los Angeles* ruling, where the courts have ruled that the effect of the environment on the project does not need to be studied in a CEQA document. Also in granting the petition for review of *CBIA v BAAQMD*, which is discussed above, the Supreme Court noted that the issue to be briefed and argued will be limited to the following: Under what circumstances, if any, does the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) require an analysis of how existing environmental conditions will impact future residents or users (receptors) of a proposed project? Nonetheless, consistent with the current thresholds in Appendix G of the State CEQA Guidelines this analysis evaluates the environment's effect on the project.

analyzed using dispersion modeling, while the analysis of the TACs emitted from nearby stationary sources used screening data provided by the BAAQMD to identify the potential cancer risk and PM2.5 exposure risks. Health risks were evaluated for a hypothetical MEI located in the residential building. Health risks potentially associated with concentrations of TACs were calculated as estimated lifetime excess cancer risks, assuming almost continuous on-site exposure. Excess cancer risk calculations were adjusted to reflect the greater sensitivity of infants and small children to TACs by applying the age-sensitivity factors used by OEHHA and BAAQMD and the age-specific breathing rates.

Evaluation of potential non-cancer health effects from exposure to short-term and long-term concentrations in the air was performed by estimating the HI. The cancer potency factors, unit risk values, and RELs used to characterize health risks associated with modeled concentrations in the air were obtained from information set forth by the BAAQMD and the California OEHHA.

### *Community Health Risk Impacts from Roadway Sources*

**Local Roadways**

Traffic on high volume roadways is a source of TAC emissions that may adversely affect sensitive receptors in close proximity to the roadway. For roadways, BAAQMD has published screening tables and data to determine if roadways with traffic volumes of over 10,000 vehicles per day may have a significant effect on a proposed project. According to the City's General Plan traffic forecasts, there are no local surface streets besides El Camino Real (State Highway 82) in the project vicinity with future 2035 volumes exceeding 10,000 ADT. Therefore, this impact from other local surface streets would be considered less than significant.

**El Camino Real (SR-82)**

A review of the traffic information reported by Caltrans indicates that in the vicinity of the project area, El Camino Real has 18,100 average daily trips (ADT). This includes about 6.4 percent trucks, of which 2.1 percent are considered heavy duty trucks and 4.3 percent are medium duty trucks.[8] The analysis included developing DPM, PM2.5 and organic TAC emissions for traffic on El Camino Real using the CARB EMFAC2011 emission factor model and the traffic mix on El Camino Real, based on Caltrans traffic data.

---

8 California Department of Transportation, 2014. 2013 Annual Average Daily Truck Traffic on the California State Highway System.

DPM emissions are projected to decrease in the future and are reflected in the EMFAC2011 emissions data. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet new 2010 engine standards that have much lower DPM and fine PM2.5 emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road, or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

The refined modeling for impacts associated with traffic on El Camino Real involved developing emission factors for year 2019 traffic assuming the default vehicle fleet information for Santa Clara County and an average speed of 30 miles per hour for all hours of the day. This speed is the same as the posted speed for southbound traffic on the turn onto El Camino Real just north of the project site and 10 miles below the posted speed limit for other portions of El Camino Real near the project site, making the estimated speed a conservative assumption. Average hourly traffic volume distributions for Santa Clara County roadways were developed using the EMFAC model,[9] which were then applied to the site specific ADT volumes to obtain estimated hourly traffic volumes and emissions for El Camino Real traffic in the project area. The year 2019 conditions were assumed to be a conservative representative of future conditions over the time period that cancer risks are evaluated, where emission rates would continue to decrease because overall vehicle emissions and, in particular, diesel truck emissions will decrease in the future. Emissions of total organic gases (TOG) were also calculated for 2019 using the EMFAC2011 model. These TOG emissions were then used in the modeling of organic TACs, such as benzene. TOG emissions from exhaust and for running evaporative loses from gasoline vehicles were calculated using EMFAC2011 default model values for Santa Clara County along with the traffic volumes and vehicle mixes for El Camino Real.

Dispersion modeling of DPM and TOG emissions was conducted using the CAL3QHCR model, which is recommended by the BAAQMD for this type of analysis.[10] The model used a five-year set (1991–1995) of hourly meteorological data from the Mineta San Jose International Airport. Northbound and southbound traffic on El Camino Real within about 1,000 feet of the project site was evaluated with the model. Other inputs to the model included road geometry, hourly traffic volumes, and emission rates. Concentrations were calculated at receptor locations within the project site where residential development would occur.

---

9 The Burden output from EMFAC2007, CARB's previous version of the EMFAC model, was used for this since the current web-based version of EMFAC2011 does not include Burden type output with hour by hour traffic volume information.

10 BAAQMD, 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May.

Receptor heights of 1.5 meters and 4.8 meters, representative of breathing heights on the first and second floor levels of the residential areas, were used in the modeling.

Using the modeled annual DPM and TOG concentrations, the individual cancer risks were computed using the methods recommended in the 2015 OEHHA and BAAQMD guidance. The factors used to compute cancer risk are dependent on modeled concentrations, exposure period or duration, and the type of receptor. The exposure level is determined by the modeled concentration; however, it has to be averaged over a representative exposure period, as discussed above. This assessment conservatively assumed long term residential exposures of 70 years. This method applies OEHHA- and BAAQMD-recommended breathing rates and age sensitivity factors to the cancer risks for residential exposures, accounting for age sensitivity to toxic air contaminants. Age-sensitivity factors reflect the greater sensitivity of infants and children to cancer-causing TACs.

The maximum increased cancer risk was computed as 7.1 in one million. This was modeled at a receptor height of 1.5 meters (4.9 feet) in the residential area in the northern portion of the project site closest to El Camino Real, and is shown in Figure 2 in **Appendix 4.1**. Cancer risks at other locations would be lower than the maximum risk. The maximum increased cancer risk is below the BAAQMD's threshold of 10 in one million excess cancer cases per million and would be considered a less than significant impact.

Potential non-cancer health effects due to chronic exposure to DPM were evaluated based on the chronic inhalation REL for DPM of 5 μg/m3. The maximum predicted annual DPM concentration from El Camino Real traffic was 0.008 μg/m3, occurring at the same receptor that had the maximum cancer risk. The HI associated with this concentration is less than 0.01. This HI is much lower than the BAAQMD significance criterion of a HI greater than 1.0. The HI at all other receptors throughout the project site would be lower than the maximum HI value. As such, this would be a less than significant impact.

In addition to evaluating the health risks from TACs, potential impacts from PM2.5 emissions generated by vehicles traveling on El Camino Real were evaluated. The same modeling approach that was used for assessing TAC impacts was used in the modeling of PM2.5 concentrations. PM2.5 emissions from all vehicles, including those from tire and brake wear, were used. These emissions were also calculated using the EMFAC2011 model for the 2019 traffic volumes. Then, dispersion modeling using emission factors and traffic volumes was conducted using the CAL3QHCR model. The model predicted the maximum annual average PM2.5 concentration from El Camino Real traffic of 0.1 μg/m3, which would occur at the receptor that had the maximum cancer risk. This PM2.5 concentration would be below the PM2.5 threshold of 0.3 μg/m3 and would be considered a less than significant impact.

**Table 4.1-11, El Camino Real Community Risk Levels at the Project Site,** presents the lifetime excess

cancer risk, annual average PM2.5 concentrations, and hazard index for the project site from projected traffic on El Camino Real. The estimated maximum excess cancer risk of 7.1 in one million, the maximum PM2.5 concentration of 0.1 μg/m$^3$, and hazard index level of less than 0.01 do not exceed their respective single-source thresholds. The emissions and dispersion modeling results, along with community risk calculations for impacts from this assessment are provided in **Appendix 4.1**. As a result, the community health risk impact on project site receptors from traffic emissions associated with El Camino Real would be less than significant.

**Table 4.1-11**
**El Camino Real Community Risk Levels at the Project Site**

| Roadway Source | Cancer Risk (per million) | Maximum PM2.5 Concentration (μg/m$^3$) | Hazard Index |
|---|---|---|---|
| **El Camino Real** | **7.1** | **0.1** | **<0.01** |
| Single-Source Threshold | *10.0* | *0.3* | *1.0* |
| ***Exceed Threshold?*** | ***No*** | ***No*** | ***No*** |

*Source: Illingworth & Rodkin, Inc., 2015*

### *Community Health Risk Impacts from Railway Sources*

The project site is located about 400 feet southwest from Caltrain and other rail lines. These rail lines are used primarily by trains for passenger (Caltrain, Altamont Commuter Express (ACE), Amtrak Capitol Corridor, and the Amtrak Coast Starlight) and freight service (Union Pacific Rail Road (UPRR)). Based on the current Caltrain schedule, 92 passenger trains per day run along this line during the weekdays, 32 trains per day run during the weekend, and four additional trains run only on Saturday. The ACE operates 8 trains daily between Stockton and San José with service terminating at the Diridon Station. The Amtrak Capitol Corridor, which provides daily service between Sacramento/Auburn and San Jose has 14 trains accessing the station. The Amtrak Coast Starlight operates between Seattle and Los Angles, with 2 daily trains. In addition to the Caltrain trains, there are up to 10 UPRR freight trains that also use this rail line on a daily basis (Illingworth & Rodkin 2015). The Santa Clara Caltrain Station is about 700 feet east of the project site.

Currently Caltrain trains use diesel locomotives. As part of the program to modernize operation of Caltrain, Caltrain is planning to electrify the Caltrain Corridor from San Francisco to San Jose and switch from diesel locomotives to use of electric trains in the near future. Nearly all of the trains in the future are

planned to be electric multiple unit (EMU) trains, which are self-propelled electric rail vehicles that can accelerate and decelerate at faster rates than diesel power trains, even with longer trains. This plan was approved on January 8, 2015[11], and electrified passenger rail service is anticipated to begin in 2020 or 2021. It is expected that 100 percent of the San Jose to San Francisco fleet would be EMUs by 2026 to 2029 (Illingworth & Rodkin 2015).

As a conservative measure, two future Caltrain operational scenarios were evaluated for this analysis in order to account for the possibility that Caltrain does not implement the electrification program. The first scenario assumes that the transition to electrified Caltrain trains will occur as currently established. The second scenario assumes that electrification will not occur and there would be continued use of diesel locomotives by Caltrain in the future. For both of these scenarios, it is assumed that all freight trains and all non-Caltrain passenger trains would continue to use diesel locomotives. Evaluation of the two scenarios provides the entire range of potential impacts to project residents that could occur in the future from railroad operations.

Electrification of Caltrain would eliminate DPM emissions from their trains. Caltrain plans that 2020 service between San Jose and San Francisco would use a mixed fleet of EMUs and diesel locomotives, with approximately 75 percent of the service electric and 25 percent diesel. In 2020, some peak service trains would be diesel on weekdays. All other service, including off-peak periods, would be EMU-based. Off-peak periods include early morning, midday, and after 7:00 PM. After 2020, diesel locomotives would be replaced with EMUs over time as they reach the end of their service life. Some of Caltrain's diesel-powered locomotives would continue to be used to provide service between the San Jose Diridon Station and Gilroy. It is expected that 100 percent of the San Jose to San Francisco fleet would be EMUs by 2026 to 2029.[12]

For calculation of emissions from Caltrain locomotives under the Caltrain electrification under Scenario 1, it was assumed that during 2019 all trains would use diesel locomotives. During 2020 through 2024 there would be 14 daily trips, on an annual average basis, using diesel locomotives and from 2025 on there would be two annual average daily trips with diesel locomotives.[13] All other Caltrain passenger train trips would be made using EMU trains. All trains used for freight service and non- Caltrain passenger

---

11 "Caltrain Board Certifies Final Environmental Impact Report and Approves Peninsula Corridor Electrification Project." Available online: http://www.caltrain.com/about/news/Caltrain_Board_Certifies_Final_Environmental_Impact_Report_and_Approves_Peninsula_Corridor_Electrification_Project.html

12 Caltrain, 2014. *Peninsula Corridor Electrification Project. Final Environmental Impact Report*. December.

13 This is a conservative assumption, as it is expected that 100 percent of the San Jose to San Francisco fleet would be EMUs by 2026 to 2029.

trains were assumed to use diesel-powered locomotives. For Scenario 2, all Caltrain trains, other passenger trains, and freight trains were assumed to use diesel locomotives during the entire 70-year period.

PM2.5 (assumed to be DPM) emissions from trains on the rail line were calculated using EPA emission factors for locomotives and CARB adjustment factors to account for fuels used in California. Current diesel locomotive engines for Caltrain trains range from 3,200 to 3,600 horsepower (hp) with a fleet average horsepower of about 3,285 hp. In estimating diesel locomotive emissions for the case of electrification (Scenario 1), the diesel locomotives that would still be operating after 2019 were assumed to be the newer locomotives with the 3,600 hp engines. In estimating emissions for 2019 under Scenario 1 and for all years under Scenario 2 use of diesel locomotives with the fleet average locomotive engine size of 3,285 hp for all trains was assumed. For other passenger trains (ACE and Amtrak) it was assumed that these trains use 3,200 hp diesel locomotives and would continue to do so in the future. Each passenger train was assumed to use one locomotive and would be traveling at an average speed of 20 mph in the vicinity of the project site. Emissions from freight trains bypassing the Santa Clara Station were calculated assuming they would use two locomotives with 2,300 hp engines (total of 4,600 hp) and would be traveling at about 40 mph.

Since the exposure duration used in calculating cancer risks is 70 years (in this case the period from 2019 through 2088), passenger and freight train average DPM emissions were calculated based on EPA emission factors for the periods 2019, 2020-2024, and 2025-2040, with the average emissions for 2025- 2040 assumed to also be representative of years 2025 through 2088 (Illingworth & Rodkin 2015).

Dispersion modeling of locomotive emissions was conducted using the EPA's AERMOD dispersion model with a five-year set (2006-2010) of hourly meteorological data from the Mineta San Jose International Airport that was prepared for use with the AERMOD model by the BAAQMD. Locomotive emissions from train travel within about 1,000 feet of the project site were modeled as four line sources (a series of volume sources along a path) along the rail line. Caltrain and freight trains were assumed to operate for 24 hours per day, while the other passenger trains were assumed to operate for 15 hours per day, from 6 AM to 9 PM. The same project on-site receptors that were used for evaluation of El Camino Real traffic impacts were also used for evaluating impacts from rail traffic. The maximum modeled long-term DPM and PM2.5 concentrations occurred at a ground floor receptor adjacent to El Camino Real. The portion of the rail line modeled, the project site receptor locations, and the location of maximum risk from the rail line are shown in Figure 2 in **Appendix 4.1**.

Cancer risk calculations were computed following methods recommended by the BAAQMD that were followed to compute cancer risks from assessing El Camino Real traffic. For residential exposures, this

includes nearly continuous exposures of 70 years and applies the most recent OEHHA- and BAAQMD-recommended breathing rates and age sensitivity factors to the cancer risks, accounting for age sensitivity to TACs. Age-sensitivity factors reflect the greater sensitivity of infants and children to cancer-causing TACs. As presented in **Table 4.1-12**, under Scenario 1, the maximum increased cancer risk was computed as 11.9 in one million with electrification of Caltrain. Under Scenario 2, if Caltrain is not electrified and diesel-powered passenger and freight train locomotives continue to be used, then the maximum cancer risk would be 19.6 in one million. Cancer risks in other areas and floor levels within the project site would be lower than the maximum cancer risk. Under the BAAQMD CEQA Air Quality Guidelines, an incremental risk of greater than 10.0 cases per million from a single source would be a significant impact unless mitigated.

**Table 4.1-12**
**Diesel Locomotive Community Risk Levels at Project Dwelling Units**

| Operation Scenario/Source | Cancer Risk (per million) | Maximum PM2.5 Concentration (μg/m³) | Hazard Index |
|---|---|---|---|
| Scenario 1 – With Caltrain Electrification<br>Rail traffic at 400 feet northeast | 11.9 | 0.0 | <0.01 |
| Scenario 2 – Without Caltrain Electrification<br>Rail traffic at 400 feet northeast | 19.6 | 0.0 | <0.01 |
| Single Source Threshold | *10.0* | *0.3* | *1.0* |
| ***Exceed Threshold?*** | ***Yes*** | ***No*** | ***No*** |

*Source: Illingworth & Rodkin, Inc., 2015*

Potential non-cancer health effects due to chronic exposure to DPM were also evaluated. The maximum predicted annual DPM concentration from locomotives for both operation scenarios, with and without Caltrain electrification, is less than 0.04 μg/m3. This concentration is much lower than the REL of 5 μg/m3. The Hazard Index would be less than 0.01, which is much lower than the BAAQMD significance criterion of a HI greater than 1.0, and the chronic impact from exposure to DPM would be less than significant. Based on the rail line modeling conducted for estimating cancer risks, the maximum PM2.5 concentration for both operation scenarios, with and without Caltrain electrification, was estimated as 0.04 μg/m3, occurring at the same receptor that had the maximum cancer risk. This concentration is below the BAAQMD PM2.5 threshold of greater than 0.3 μg/m3. Thus, the impact of PM2.5 from railroad operations on project site residents would be less than significant.

The maximum excess cancer risks calculations and PM2.5 concentrations from train operations are

included in **Appendix 4.1**, which also includes details on the assumptions used with the modeling and the DPM and PM2.5 emission rates used. As the analysis above shows, the community health risk impact, from railway emissions under both Scenario 1 and Scenario 2 would be potentially significant with respect to cancer risk, unless mitigated. Implementation of **Mitigation Measure AIR-5a,** which requires the installation of air filtration systems in the proposed apartments, or **Mitigation Measure AIR-5b,** would reduce the excess cancer risk impact to a less than significant level.

The BAAQMD CEQA Air Quality Guidelines recommend as mitigation that projects install and maintain air filtration systems of fresh air supply. These systems should be installed on either an individual unit by unit basis, with individual air intake and exhaust ducts ventilating each unit separately, or through a centralized building ventilation system. The ventilation system should be certified to achieve certain effectiveness.

The U.S. EPA reports particle size removal efficiency for filters rated MERV13 of 90 percent for particles in the size range of 1 to 3 μm and less than 75 percent for particles 0.3 to 1 μm (see American Society of Heating, Refrigerating and Air Conditioning Engineers). MERV16 filters are listed to have removal efficiency for those particles (i.e, 0.3 to 3 μm) of 90 percent or greater. Recent studies by the South Coast Air Quality Management District indicate that MERV13 filters could achieve reductions of about 60 percent for ultra-fine particles and about 35 percent for black carbon, while MERV16 filters exceeded 85 percent.

In 2012, CARB compiled a synthesis of the status of potential mitigation concepts to reduce exposure to nearby traffic air pollution. Because mechanical ventilation has not been used in residential buildings until recently, there has been limited assessment of its impact on entry of particles and other pollutants into homes. CARB-reviewed studies of homes and schools have shown that high-efficiency filtration in mechanical ventilation systems can be effective in reducing levels of incoming outdoor particles. They noted that one study of residences in Northern California found that the homes with active filtration in a mechanical system had a notably lower portion of indoor particles from outdoors when the systems were on (filtration active) than when they were turned off (no filtration). In another study reviewed by CARB that included modeling study of Korean residential units with mechanical ventilation, filters rated lower than MERV 7 were insufficient for reducing contaminants that enter through the ventilation filter, and concluded that filters should exceed MERV 11. The CARB review also notes that in a school pilot study, a combination of MERV 16 filters used as a replacement for the normal panel filter in the ventilation system and in a separate filtration unit reduced indoor levels of outdoor-generated black carbon, ultrafine particles and PM2.5 by 87 percent to 96 percent in three Southern California schools. Use of the MERV 16 panel filter alone in the HVAC system achieved average particle reductions of nearly 90 percent. Another study reviewed by CARB found indoor submicron particle counts in a Utah school were reduced to just

one-eighth of the outdoor levels in a building with a mechanical system using a MERV 8 filter.

### *Community Health Risk Impacts from Stationary Sources*

Eight stationary sources, near the project site, that could affect the project site, were identified using BAAQMD's *Stationary Source Risk & Hazard Analysis Tool,* Figure 3 in **Appendix 4.1**. This mapping tool uses Google Earth to identify the location of stationary sources and their estimated screening-level risk and hazard impacts. A stationary source inquiry form (SSIF) was submitted to BAAQMD to obtain updated screening risk values which include the latest OEHHA methodology. Note that the BAAQMD Stationary Source Risk & Hazard Analysis Tool does not always place sources at their exact location, so addresses were also used to best identify nearby stationary source locations (Illingworth & Rodkin 2015).

Four of the nearby stationary sources are emergency back-up generators that operate on diesel. Plant 17534 was also a back-up generator, however according to BAAQMD, this facility closed in February of 2015, so there would be no emissions from this source or impact to the project site, The reported risk and PM2.5 concentration from each of the diesel generators was adjusted for distance based on BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion (IC) Engines*. Two of the nearby stationary sources are gas-dispensing facilities. The reported risk from these facilities was adjusted for distance based on BAAQMD's *Distance Adjustment Multiplier Tool for Gasoline Dispensing Facilities (GDF)*. The eighth nearby stationary source is an industrial coatings facility located at 1597 Grant Street, operated by SRS Gilbert Industrial Coatings, Inc. about 900 feet north of the project site. The facility includes a spray booth with oven, abrasive blast room, wipe cleaning operation, paint spray booth, and compressor engine. At BAAQMD's direction, PM2.5 concentration from the facility was adjusted based on BAAQMD's *Distance Adjustment Multiplier Tool.* A summary of screening risk levels from each of the nearby stationary TAC sources are presented in **Table 4.1-13, Stationary Source Excess Cancer Risk and Annual PM2.5 Concentrations at the Project Site**.[14]

As shown in **Table 4.1-13**, the maximum cancer risk at the project site from the nearby stationary sources is calculated to be 4.8 in 1 million, HI is calculated to be less than 0.01, and the maximum annual PM2.5 concentration is estimated at 0.0 $\mu g/m^3$. None of the identified stationary sources exceed the applicable single-source thresholds of 10.0 in 1 million for cancer risk, HI threshold of 1.0, or the threshold of 0.3 $\mu g/m^3$ for PM2.5 concentrations. The impact associated with stationary source TAC emissions on the project site receptors would be less than significant.

---

14 Note that the emergency back-up generators are generally only operated for routine maintenance and testing.

**Table 4.1-13**
**Stationary Source Excess Cancer Risk and Annual PM2.5 Concentrations at the Project Site**

| Plant Number | Approximate Distance (feet) | Facility | Maximum Cancer Risk (per million) | PM2.5 Concentration (μg/m³) | Hazard Index |
|---|---|---|---|---|---|
| Plant G437 | 500 | Santa Clara University 500 El Camino Real | <0.1 | 0.0 | <0.01 |
| Plant 17237 | 425 | City of Santa Clara 500 Benton Street | 3.6 | 0.0 | <0.01 |
| Plant 15839 | 135 | Santa Clara Police Department 601 El Camion Real | 4.8 | 0.0 | <0.01 |
| Plant G435 | 135 | Santa Clara Police Department 601 El Camino Real | 0.4 | 0.0 | <0.01 |
| Plant 17325 | 300 | City of Santa Clara Fire Station #1 777 Benton Street | 1.6 | 0.0 | <0.01 |
| Plant G11158 | 300 | City of Santa Clara Fire Station #1 777 Benton Street | <0.1 | 0.0 | <0.01 |
| Plant 11700 | 900 | SRS Gilbert Industrial Coatings, Inc. 1597 Grant Street | <0.1 | 0.0 | <0.01 |
| | *Single-Source Threshold* | | *10* | *0.3* | *1.0* |
| | ***Exceed Threshold?*** | | ***No*** | ***No*** | ***No*** |

*Source: Illingworth & Rodkin, Inc., 2015*

**Mitigation Measures:**

**AIR-5a** The project shall include the following measures to minimize long-term toxic air contaminant (TAC) exposure for new project residences:

1. Integrate building design features to limit exposure from sources of TAC and PM2.5;

2. Install air filtration in residential buildings. Air filtration devices shall be rated MERV13 or higher. To ensure adequate health protection to sensitive receptors, this ventilation system shall meet the following minimal design standards:

   a. A MERV13 filter or higher rating;

b. At least one air exchange(s) per hour of fresh outside filtered air; and

c. At least four air exchange(s) per hour recirculation.

3. As part of implementing this measure, an ongoing maintenance plan for the buildings' heating, ventilation, and air conditioning (HVAC) air filtration system shall be required. Recognizing that emissions from air pollution sources are decreasing, the maintenance period shall last as long as significant excess cancer risk are predicted. Subsequent studies could be conducted by an appropriately credentialed environmental professional to identify the ongoing need for the ventilation systems as future information becomes available.

4. Ensure that the lease agreement and other property documents (1) require cleaning, maintenance, and monitoring of the residential buildings for air flow leaks; (2) assurance that new tenants are provided information on the ventilation system; (3) provisions that fees associated with leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed; and (4) provide information regarding the ventilation/filtration systems and importance of keeping windows and doors closed to maximize the efficiency of the system.

**AIR-5b** The Applicant may choose to reassess the potential cancer risk exposures to on-site residential receptors later in the design phase, but prior to occupancy, and to prepare a revised HRA using updated receptor location information and a more detailed assessment of risks associated with rail line operations that accounts for the status of Caltrain electrification at that time and submit to the City for review. If the revised HRA demonstrates, to the satisfaction of the City, that the cancer risk exposures for on-site receptors will be less than BAAQMD project-level thresholds, then **Mitigation Measure AIR-5a** would be unnecessary. If the revised HRA demonstrates, to the satisfaction of the City, that the cancer risk for on-site sensitive receptors will be less than presented in this analysis, but still over BAAQMD threshold, the mitigation effort may be proportionately reduced.

**Significance After Mitigation:** With implementation of **Mitigation Measure AIR-5a** or **Mitigation Measure AIR-5b,** a properly installed and operated ventilation system with MERV13 air filters may reduce PM2.5 concentrations from DPM mobile sources by approximately 60 percent. Increased cancer risk exposure for a MERV13 filtration case was calculated assuming a combination of outdoor and indoor exposure. For use of MERV13 filtration systems, without the additional use of sealed, inoperable widows

or no balconies, 3 hours of outdoor exposure to ambient DPM concentrations and 21 hours of indoor exposure to filtered air was assumed. The filtration systems were assumed to only reduce the portion of cancer risk associated with DPM exposure. In this case, the effective control efficiency using a MERV13 filtration system is about 52.5 percent for cancer risk.

The projected mitigated cancer associated with use of this filtration system is 9.3 in one million. With use of project-specified air filtration systems, excess cancer risk inside the project residential areas would be reduced to levels below the BAAQMD significance threshold and impacts would be less than significant.

---

**Impact AIR-6:** **The proposed project would not create objectionable odors affecting a substantial number of people. (*Less than Significant*)**

Project construction would generate localized emissions of diesel exhaust during equipment operation and truck activity. The odor associated with these emissions may be noticeable from time to time to adjacent receptors. However, they would be temporary, short-term, and localized and are not likely to result in confirmed odor complaints. Furthermore, BAAQMD-recommended control measures would be implemented to minimize diesel exhaust emissions emitted on the project site during construction. The odor impact from construction-phase emissions would be less than significant. The proposed project does not include any land uses that could subject existing receptors in the project vicinity to substantial odors.

There are no sources of substantial odors near the project site that could subject the new residents of the site to substantial odors. There would be no impact on the new residents related to exposure to odors.

**Mitigation Measures:** No mitigation measures are required.

---

### 4.1.4.4 Cumulative Impacts and Mitigation Measures

**Cumulative Impact AIR-1:** **The proposed project, in conjunction with other past, present and reasonably foreseeable future development, would not result in significant cumulative air quality impacts. (*Less than Significant*)**

CEQA defines cumulative impacts as two or more individual effects which, when considered together, are either significant or "cumulatively considerable," meaning they add considerably to a significant environmental impact. Cumulative impacts can result from individually minor but collectively significant projects (*State CEQA Guidelines* Section 15355). An adequate cumulative impact analysis considers a

project over time and in conjunction with other past, present, and reasonably foreseeable future projects whose impacts might compound those of the project being assessed.

### *Construction*

A review of cumulative construction projects that are planned and approved in Santa Clara did not reveal any projects close enough to the project site to result in a potentially significant cumulative construction health risk impact. As discussed above, the proposed project's construction emissions exhaust would not exceed the significance thresholds, and fugitive dust emissions would be adequately controlled through implementation of **Mitigation Measure AIR-1**. Therefore, project emissions of criteria air pollutants or their precursors from construction would not make a considerable contribution to cumulative air quality impacts.

With respect to cumulative community health risk impact, the BAAQMD *CEQA Air Quality Guidelines* recommend that lead agencies consider existing sources of TAC emissions located within 1,000 feet of the construction maximally exposed individual (MEI), see Figure 1 in **Appendix 4.1**. As discussed above, the project area is affected by several sources of TACs. **Table 4.1-14, Cumulative Impacts at Construction MEI from Combined Sources,** shows the cancer and non-cancer risks associated with each nearby source affecting the MEI during project construction. As shown in **Table 4.1-14**, the sum of impacts from combined sources within 1,000 feet of the project, at the construction MEI, would be below the applicable risk thresholds, and thus impacts would be considered less than significant.

**Table 4.1-14**
**Cumulative Impacts at Construction MEI from Combined Sources**

| Source | Maximum Cancer Risk (per million) | PM2.5 Concentration (μg/m³) | Hazard Index |
|---|---|---|---|
| Project Construction without Mitigation | 44.9 | 0.4 | 0.05 |
| Project Construction with Mitigation | 2.7 | 0.1 | <0.01 |
| El Camino Real Traffic | 7.1 | 0.1 | <0.01 |
| Railroad Traffic (all diesel engine scenario) | 19.6 | 0.0 | <0.01 |
| Stationary Source Traffic | | | |
| Plant G437 | <0.1 | 0.0 | <0.01 |
| Plant 17237 | 3.6 | 0.0 | <0.01 |
| Plant 15839 | 4.8 | 0.0 | <0.01 |
| Plant G435 | 0.4 | 0.0 | <0.01 |
| Plant 17325 | 1.6 | 0.0 | <0.01 |
| Plant G11158 | <0.1 | 0.0 | <0.01 |
| Plant 11700 | <0.1 | 0.0 | <0.01 |

| Source | Maximum Cancer Risk (per million) | PM2.5 Concentration (μg/m³) | Hazard Index |
|---|---|---|---|
| **Combined Sources without Mitigation** | **<82.3** | **0.5** | **<0.14** |
| *Combined Sources Threshold* | *100* | *0.8* | *10.0* |
| ***Exceed Threshold?*** | ***No*** | ***No*** | ***No*** |
| **Combines Sources with Mitigation** | **<40.1** | **<0.2** | **<0.10** |
| *Combined Sources Threshold* | *100* | *0.8* | *10.0* |
| ***Exceed Threshold?*** | ***No*** | ***No*** | ***No*** |

*Source: Illingworth & Rodkin, Inc., 2015*

## *Operational*

As discussed above under **Impact AIR-2**, the proposed project's operational emissions would not exceed the significance thresholds. Therefore, project emissions of criteria air pollutants or their precursors from operations would not make a considerable contribution to cumulative air quality impacts.

In addition, cumulative traffic conditions for the project area were analyzed and it was determined that violations of the CO standards would not occur (**Impact AIR-4**).

With respect to the cumulative impact on project site residents from exposure to existing TAC sources in the area, **Table 4.1-15 Cumulative Operational Impacts from Existing TAC Sources on Project Receptors,** shows the cancer and non-cancer risks associated with each nearby source affecting the project site. The sum of impacts from all existing TAC sources within 1,000 feet of the project would be below the applicable risk thresholds. Therefore, the impact from cumulative community risk would be less than significant.

**Table 4.1-15**
**Cumulative Operational Impacts from Existing TAC Sources on Project Receptors**

| Source | Maximum Cancer Risk (per million) | PM2.5 Concentration (μg/m³) | Hazard Index |
|---|---|---|---|
| El Camino Real Traffic | 7.1 | 0.1 | <0.01 |
| Railroad Traffic | | | |
| Scenario 1 (with electrification) | 11.9 | 0.0 | <0.01 |
| Scenario 2 (without electrification) | 19.6 | 0.0 | <0.01 |
| Stationary Source | | | |
| Plant G437 | <0.1 | 0.0 | <0.01 |
| Plant 17237 | 3.6 | 0.0 | <0.01 |
| Plant 15839 | 4.8 | 0.0 | <0.01 |

| Source | Maximum Cancer Risk (per million) | PM2.5 Concentration (μg/m³) | Hazard Index |
|---|---|---|---|
| Plant G435 | 0.4 | 0.0 | <0.01 |
| Plant 17325 | 1.6 | 0.0 | <0.01 |
| Plant G11158 | <0.1 | 0.0 | <0.01 |
| Plant 11700 | <0.1 | 0.0 | <0.01 |
| **Combined Sources with Caltrain Electrification[1]** | **<29.7** | **0.1** | **<0.09** |
| *Combined Sources Threshold* | *100* | *0.8* | *10.0* |
| ***Exceed Threshold?*** | ***No*** | ***No*** | ***No*** |
| **Combined Sources without Caltrain Electrification[1]** | **<37.4** | **0.1** | **<0.09** |
| *Combined Sources Threshold* | *100* | *0.8* | *10.0* |
| ***Exceed Threshold?*** | ***No*** | ***No*** | ***No*** |

*Source: Illingworth & Rodkin, Inc., 2015*

[1] *The combined source level is an overestimate because the maximum impact from each source is assumed to occur at the same location.*

**Mitigation Measures:** No mitigation measures are required.

## 4.1.5 REFERENCES


Bay Area Air Quality Management District (BAAQMD). 2001. *Revised San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard*. October.

BAAQMD. 2006. *Bay Area 2005 Ozone Strategy*. January.

BAAQMD. 2010. *Air Toxics NSR Program Health Risk Screening Analysis (HSRA) Guidelines.* January.

BAAQMD. 2010. *Bay Area 2010 Clean Air Plan*. September.

BAAQMD. 2011. *CEQA Air Quality Guidelines*. May.

BAAQMD. 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards.* May.

California Air Resources Board and Office of Environmental Health Hazard Assessment. 2015. "Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values." http://www.arb.ca.gov/toxics/healthval/contable.pdf.

City of Santa Clara (CSC). 2014. *City of Santa Clara 2010-2035 General Plan*. Adopted November 16, 2010.

Amended December 2014.

Illingworth & Rodkin. 2015. *Mission Town Center – Air Quality and Greenhouse Gas Emission Assessment, Santa Clara, California*. November 13.

# 4.2 CULTURAL RESOURCES

## 4.2.1 INTRODUCTION

This section evaluates the potential impacts to cultural resources (historical, archaeological, and paleontological) from the implementation of the proposed project.

Archaeological resources are the physical remains of past human activities and can be either prehistoric or historic. Archaeological sites contain significant evidence of human activity. Generally, a site is defined by a significant accumulation or presence of: food remains, waste from the manufacturing of tools, tools, pottery, concentrations or alignments of stones, modification of rock surfaces, unusual discoloration or accumulation of soil, and/or human skeletal remains.

Historical architectural resources are buildings, structures, objects, sites, and districts of significance in history. These resources typically include intact structures of any type that are 50 years or more of age. They are sometimes called features of the built environment and can include, in addition to houses, structures such as irrigation works and engineering features.

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

Information presented in this section is based on the Cultural Resources Treatment Plan prepared for the project by Albion Environmental, Inc., and the Historic Architecture Evaluation Report prepared by Ward Hill. Both reports are included in **Appendix 4.2** of this Draft EIR**.**

## 4.2.2 ENVIRONMENTAL SETTING

### 4.2.2.1 Cultural Setting of the City of Santa Clara

The City of Santa Clara, including the portion of the city where the project is located, has a long history of settlement first by Native Americans, followed by the Spanish, and later by other settlers who came to California during and after the Gold Rush. The development history of the city presented below is based on the City of Santa Clara General Plan and the General Plan EIR.

## *Pre-Colonial Era*

By the time the Spanish began extensively exploring Alta California in the 18th century, a substantial Native American population occupied the Santa Clara Valley. This population, originally called Costanoan[1] occupied a relatively large area in north-central California, from the San Francisco Peninsula and the east Bay, south to the Santa Clara Valley down to Monterey, and inland south to San Juan Bautista. This area encompassed a mosaic of different habitat types, including grasslands, woodlands, chaparral, redwood forests, coastal scrub estuaries, and tidal marshes. Miwok tribelets were to the north and northeast of their Ohlone neighbors. Yokuts tribelets were to the east. Immediate neighbors to the south of the Ohlone included the Hokan-speaking Esselen and Salinan. The aboriginal inhabitants of the project vicinity belonged to a group known as the *Tamyen* (*Tamien*) subgroup of the Costanoans who occupied the central Santa Clara Valley (Albion 2015).

## *Spanish Colonial Era*

In 1769, scouts from Juan Gaspar de Portola's expedition into the Monterey Bay discovered Santa Clara's rich fertile soils (CSC 2014). In 1777, the first Mission in Santa Clara was established in what would later be known as the Santa Clara Valley. Establishing missions, presidios, and pueblos was seen as an inexpensive way of protecting northern Mexico, while simultaneously attempting to spread Spanish culture and Christian faith. The Santa Clara Mission served as a colonial center and attracted a great deal of associated activity including agriculture, livestock management, building and residential and industrial development (CSC 2011).

Following the establishment of Mission Santa Clara, Franciscan priests began moving Native Americans into mission centers. This practice created mission populations composed of peoples from variable ethnolinguistic groups and very distant polities. After baptism, indigenous peoples found themselves forging a new community with others who spoke different Indian languages, claimed various tribal territories, and affiliated themselves with dissimilar lineage lines, all the while, interacting with a colonial presence that sought to transform them into "productive citizens" of the colony. The priests at Mission Santa Clara defined ranchería districts that arbitrarily circumscribed Costanoan territory north, south, east, and west of Mission Santa Clara. This redefined classification masked much of the indigenous socio-political diversity at this mission, specifically because ranchería districts grouped many tribes and villages together arbitrarily (Albion 2015).

---

1 Now known as the *Ohlone*.

During several population spikes, more than 1,400 Native Americans lived at Mission Santa Clara. Mission Santa Clara's historic documents indicate a steady influx of Ohlone, Northern Valley Yokuts, and Miwok populations from diverse villages within those ethnolinguistic territories. However, the rigors of missionization and especially the introduction of exotic diseases to which Native Californians had no immunity, eventually took their toll on the Ohlone population in the Santa Clara Valley. Disease and a high death rate were common. In 1784 and 1785, for example, a virulent epidemic swept through the Native population at Santa Clara, killing a large number of men, women, and children. During the summer of 1802, another epidemic further ravaged the Native population of the Santa Clara Valley. By the early part of the 19th century only 50 years after initial contact with Europeans, the Ohlone population in the Santa Clara Valley, and indeed in the larger Bay Area, suffered a decimating decline. Countless Natives succumbed to foreign diseases and the harsh conditions of the Mission system. Mission Santa Clara was only able to sustain and increase the Native population, and thus labor force, through a constant influx of new converts from mainly the Northern Yokuts and Miwok territories (Albion 2015).

The Indian village at Mission Santa Clara is best viewed as a growing and changing blend of indigenous peoples drawn at first from the San Francisco Bay region and later as far away as the San Joaquin Valley and the foothills of the Sierra Nevada. The population represented dozens of formerly independent tribelets of no more than a few hundred people, some closely related culturally and linguistically, others from vastly different traditions. The community or perhaps communities within the village were adjusting to both the Spanish Colonial regime and to day-to-day relationships with people with whom they had little or no contact prior to Mission secularization. These adjustments and the creation of new personal and community identities are reflected in archaeological records (Albion 2015).

### *Late Mexican and American Era*

The town of Santa Clara grew up around the secularized Mission Santa Clara. The town was primarily an American creation and not a direct successor to the Mission pueblo. Santa Clara was a favorable location on account of environmental factors, the presence of former Mission lands and buildings, and roads to San Francisco and San Jose (e.g., El Camino Real, The Alameda).

The first two American immigrants, George Bellomy and Mary Bennett, arrived in the early 1840s with the intention of permanently settling on what was land still under the control of Mission Santa Clara. Father Jose Maria Suarez del Real, the priest in charge of Mission Santa Clara, allowed Mary Bennett to occupy an old mission adobe to the west of the mission church and she then petitioned for land on which to permanently settle. In September, 1845, Mary's formal petition for a grant of two separate parcels, a house lot together with a farming lot, was sent to the governor. On November 1845, Governor Pio Pico

approved a grant of the two parcels. By 1845, a small close-knit community of Californios obtained and occupied house lots on land that was in close proximity to the mission church (Albion 2015).

In 1846, approximately 175 American immigrants, members of the first large overland immigration to California, arrived in Santa Clara to spend the winter at the Mission. When winter was over, many squatted on the surrounding mission land, establishing preemptive claims. In June of 1847, Governor Mason ordered the unauthorized occupants to leave and sent Captain Naglee with a body of soldiers to oust the squatters and return possession to the Mission fathers. However, Mason also proposed that the immigrants be allowed to stay until harvest time or longer if they paid rent, and Father Real assented to that request (Albion 2015).

In 1848, gold was discovered in Coloma and thousands rushed to California in search of riches. Santa Clara's population decreased dramatically as residents joined the Gold Rush. When promises of great wealth failed to materialize during the Gold Rush of 1849, many of the gold seekers turned to the "gold" that was the fertile land of the Santa Clara Valley and began to settle in Santa Clara (CSC 2014).

Following the arrival of the early American immigrants, wheat farming had become the dominant crop. By the early 1850s, farmers had begun experimenting and planting small orchards and vineyards on their grain farms. The productivity of the Mission's orchards had impressed many agricultural entrepreneurs who settled here after the Gold Rush. Their interest in Santa Clara land inspired this area's earliest development and cultivation of fruit products. From this start, fruit orchards and vineyards would be developed at an increasingly rapid rate. Large enterprises formed on the land abutting the developing town of Santa Clara, and small orchards formed in the town proper (Albion 2015).

By 1850, when California became a state, Santa Clara was an established frontier settlement. In 1851, Santa Clara College, now Santa Clara University (SCU), was founded on the Mission site and became a prominent feature of the developing town. The incorporation of Santa Clara followed in 1852. In 1866, the City officially established a grid street system to accommodate anticipated growth. Today, this area is known as the Old Quad neighborhood (CSC 2014). Outside City limits, small family farms and orchards developed and thrived in the area's fertile soil and mild climate. As the town grew, it was supported by a variety of manufacturing, seed, and fruit industries (CSC 2011).

Whether for moving people or goods, the development of early adequate transportation systems played a major role in the growth of Santa Clara. Prior to 1864, horse-drawn wagons transported fruit produce from the orchards along Benton Street on the way to the port of Alviso for shipment to San Francisco and Oakland. In an effort to reach larger markets and increase their profits, the Santa Clara Tannery allied with the nearby College of Santa Clara to support the construction of the San Francisco and San Jose

Railroad in 1860. Following that, in 1863, the Santa Clara Railroad depot was constructed and became an important hub as exports increased (Albion 2015). In addition to its growing industries and rail use, the City made historic headway in transit and transportation. The Alameda became the first interurban horse car line in the West, linking Santa Clara and San José. By 1888, the street had the first electric trolley line in California. The City also established its own municipal electric power utility in 1896, which is known today as Silicon Valley Power (CSC 2014). By this time, Santa Clara was a bustling town with streets, a railroad, and town blocks that had been developed on what was once Mission land. These blocks now had businesses and residences located on them, all of which were occupied by people of various ethnic origins.

#### 4.2.2.2 Archaeological Resources and Human Remains in the Project Vicinity

##### *Pre-Colonial Era*

The project site is in an area known to contain significant prehistoric resources. The nearest Pre-Colonial resource to the project site is the Alameda Native American Burial Site (CA-SCL-755). The Alameda Native American Burial Site is located in the center of the Santa Clara University (SCU) campus beneath Alameda Mall and immediately south of the project site. Human remains associated with CA-SCL-755 have been discovered as close as 711 feet south of the project site, at the Arts and Sciences Building site within the SCU campus. Since the first burials were uncovered in the 1920s, 31 Pre-Colonial human interments have been discovered at CA-SCL-755 (Albion 2015).

##### *Spanish Colonial Era*

Five separate Mission churches were built in Santa Clara at three distinct locations. Three of these churches, in two separate locations, exist within the modern SCU campus. In addition to a church and quadrangle, the Mission site included a village, housing over 1,500 indigenous people, and industrial complexes such as irrigation canals, agricultural land, animal husbandry, and orchards. These land uses extend throughout the modern campus and beyond the SCU boundaries. The third Mission site, less than 200 feet south of the project site, has been well documented historically and archaeologically. This Mission site is extremely sensitive for the presence of human remains, as prior excavations provide evidence of an associated cemetery. Discoveries during these excavations included foundation stones, adobe brick, roof tiles, floor tiles, ceramics, glass, and human bone. The Mission death registry records over 8,000 burials in the third mission cemetery between 1781 and 1818. An archaeological preserve has been created at the site of the third Mission, in efforts to prevent further disturbance to archaeological components of the church and cemetery. Although historic maps show the northern boundary of the

cemetery as being 155 feet south of the project site, the actual boundaries have yet to be archaeologically verified (Albion 2015).

In addition to churches and cemeteries, other elements of the Mission landscape are features related to agriculture and industry. These may include features such as orchards and associated adobe walls, livestock corrals, or irrigation canals. An orchard associated with the third Mission site, located approximately 500 feet southeast from the project site, has been documented archaeologically in 1989 and again in 2011. In addition, archaeological evidence of zanjas, tanning vats, adobe borrow pits, a corral, and a matanza site have been discovered at the third Mission site (Albion 2015).

Another major element of the Mission landscape was the Indian Ranchería. Based on ample archaeological and documentary evidence, this village is known to have housed a Native American population, which reached 1,400 people at its height, and included adobe houses, Native-style structures, household refuse deposits of varying forms and functions, and large communal refuse deposits. Native Americans constructed the first adobe houses specifically for family residential use in 1792. According to the yearly informal archaeological investigations, neophytes built eight houses in 1792, 14 in 1793, and nine in 1794. To date, there appears to be one large neophyte living complex at Mission Santa Clara, despite the movements and reconstructions of the Mission quadrangle. The Indian Ranchería contained a neophyte residential building, which was subsequently named the Woman's Adobe. This building lies approximately 154 feet south of the project site, and is registered as California Historical Landmark No. 249. Constructed sometime after 1792, the building is recorded as originally being two rooms of a row of adobe rooms that was in turn part of the complex of several rows of Native American adobe housing. Also known as the Peña Adobe, this structure was remodeled, updated, and is currently utilized as a meeting place for the Santa Clara Woman's Club. This building is one of only two surviving neophyte residential adobe structures in California (Albion 2015).

Archaeological investigations have revealed evidence of adobe room blocks west of the Peña Adobe. During excavations in 2012 to 2015, Albion and the Santa Clara University Curation and Conservation Facility uncovered the positive remains of four distinct adobe room block structures. These adobe room blocks have been disturbed by American Period and modern construction, therefore remains of individual adobe room blocks are not contiguous. Of the adobe structures excavated, one feature was the most intact and most completely excavated. This feature was located approximately 440 feet southwest of the project site. Connected rooms of adobe on stone foundations were not the only kinds of housing documented for the neophyte population at Mission Santa Clara, and other California Missions. Native American style housepits have also been identified archaeologically. The Native American-style housepit recovered in 2004 was one of the most important Mission Period archaeological finds up to that time. This

feature is dated to after 1800 and was likely inhabited by Yokuts who were brought to the Mission after 1811. This feature was located 570 feet south of the project site (Albion 2015).

Another important element of the Indian Ranchería is the archaeological signatures that exist in the spaces between the adobe buildings and Native style houses. In these spaces, archaeological investigations have identified refuse deposits of variable forms. In characterizing refuse pits, findings suggest that these pits had multiple functions, in addition to their final use for refuse disposal (Albion 2015).

### *Late Mexican and American Era*

After Mission secularization, Santa Clara transformed into a working class neighborhood of European immigrants. The neighborhood within which the project site lies developed as a mixture of residential and business/industrial uses. Archaeological research has uncovered refuse and infrastructure related archaeological features associated with this early neighborhood development in other areas surrounding the project site. They include refuse deposits with integrity that can be associated with a particular household or family. Infrastructure features such as early sewer lines, trolley lines, and railroads from the American Period were also identified near the project site (Albion 2015).

## 4.2.2.3 Archaeological Resources and Human Remains on the Project Site

Limited subsurface exploration and trenching were performed on portions of the project site in 2015, where feasible based on existing structures and improvements, in order to identify potential archaeological resources and human remains within the project site. Exploratory trenching was conducted within the project site from May 12, 2015 to May 18, 2015. This exploratory study consisted of four small trenches with all areas excavated with a 3-foot wide, flat bladed bucket to remove soils at very small increments down to the level of historic-era resources archaeological resources. Intact resources associated with the Mexican Period, American Period, or Pre-Colonial times were not identified. One historical resource associated with the Mission Period was identified.

In Trench A, the exploration identified a concentration of bottles from the Late American Period, dating from 1880 to the 1930s. While not clearly associated with any feature, like a privy or refuse pit, these artifacts may suggest that one such feature is nearby. Exploration within Trench C identified the remains of a Mission Period cobblestone building footing. This foundation wall may be related to mission industrial activities, such as a blacksmith shop. The wall once extended an unknown distance north to south and while disturbed on the northern and southern ends, this approximately 120cm section of wall measured approximately 40cm across. The feature was composed of the cut of the pit, as well as the wall

cobbles and the surrounding soils. Archaeologists documented the feature, and covered it with geo-cloth and soil (Albion 2015).

Exploratory testing of the project site also revealed information about the soils, the level of disturbance, and the nature of A and B-Horizon soils. Two A-Horizon strata and a B-Horizon strata were identified during testing. The upper A-Horizon soils found on the project site extended to approximately 1.0 to 1.5 feet below surface and consist of natural deposits during the modern era. These soils were described as heavily disturbed with modern-era materials, such as modern brick, cement, and ping-pong balls, Silty Clay, with a Munsel color of 10YR 2/1 (wet) and 10YR 4/4 (dry). This context was thickest in Trenches B and D, suggesting that these areas were heavily disturbed by modern activities. In fact, the area of Trench B was reportedly used for backhoe training by the current property owner in the recent past. Other disturbances noted during testing included historic trenching within Trench D, disturbed American Period refuse in Trench A, and evidence of modern construction disturbances in Trench B. The lower A-Horizon soils, which occurred from approximately 1.5 feet to 4.0 feet below the surface, were void of any modern-era artifacts. A feature was identified at a depth of 12 centimeters below datum and was excavated into this lower A-Horizon stratum. This indicated that this layer of A-Horizon soils dates to the Mission Period or prior. The B-Horizon stratum, characterized as Sandy Loam, with a Munsel color of 10YR 4/2 (wet) and 10YR 6/4 (dry), was visible about 3.0 to 4.0 feet below the surface. The feature mentioned above does extend into the B-Horizon soils; however, the end depth of the feature was not determined (Albion 2015).

### 4.2.2.4 Historic Architectural Resources on and in the Vicinity of the Project Site

The buildings located within the project site represent a variety of uses and types, including warehouses, offices, an auto repair shop, a restaurant, and single-family and multi-family residential buildings. A total of 13 buildings are located within the project site. Three buildings are less than 50 years old and thus are not eligible under the criteria of the California Register or the City of Santa Clara "Criteria of Local Significance." As described in **Table 4.2-1**, eight buildings on the project site that are over fifty years old are not eligible under the criteria of the California Register of Historical Resources ("CRHR or California Register") or the City of Santa Clara "Criteria of Local Significance." (For more information on the California Register criteria and the City of Santa Clara criteria, please see **Sections 4.2.3.2** and **4.2.3.3** below.)

The two houses at 3370 The Alameda and 3410 The Alameda are eligible under the City of Santa Clara "Criteria of Local Significance" Criterion 1 of the "Criteria for Architectural Significance." The house at 3370 The Alameda is also eligible under California Register Criterion 3 as an excellent example of Craftsman Bungalow architecture in Santa Clara (Hill 2015).

**Table 4.2-1**
**Project Site Historic Architectural Resources**

| Address | More than 50 Years Old | Eligible under CRHR Criteria | Eligible under City Criteria |
|---|---|---|---|
| 602 Fremont Street | No | The warehouse at 602 Fremont Street is not eligible for the California Register due to the age of the building. | The warehouse at 602 Fremont Street is not eligible under City Criteria for Local Significance due to the age of the building. |
| 611-613 Sherman Street | No | The duplex at 611-613 Sherman Street is not eligible for the California Register due to the age of the building. | The duplex at 611-613 Sherman Street is not eligible under City Criteria for Local Significance due to the age of the building. |
| 3300-3340 The Alameda | No | The commercial building at 3300-3340 The Alameda is not eligible for the California Register due to the age of the building. | The commercial building at 3300-3340 The Alameda is not eligible under City Criteria for Local Significance due to the age of the building. |
| 575 Benton Street | Yes | 575 Benton Street does not have significant associations with local themes or cultural patterns of significance, thus the building is not eligible for the California Register under Criterion 1.<br>The warehouse is not associated with significant figures in local history, thus the building does not appear to be significant under California Register Criterion 2.<br>The ca. 1960 building area is not a significant example of industrial architecture in Santa Clara, thus it does not appear to be eligible under California Register Criterion 3.<br>The building is not a contributing resource to a California Register eligible historic district. | The building does not appear to be eligible under the City of Santa Clara "Criteria for Local Significance" because it is not culturally, historically or architecturally significant. |
| 625 Benton Street | Yes | The house individually does not appear to have significant associations with local themes or cultural patterns of significance, thus the house does not appear to be eligible for the California Register under Criterion 1.<br>The original occupants of the house at this location – Violet and Albert Perry – are not significant figures in local history, thus the house does not appear to be significant under California Register Criterion 2.<br>The historic integrity of the house has been compromised by alterations to the front façade (the prominent brick base and chimney) and is not an exceptional or distinguished example of the Bungalow Style in Santa Clara, thus it does not appear to be eligible under California Register Criterion 3.<br>The house is not a contributing resource to a California Register eligible historic district. | The house does not appear to be eligible under the City of Santa Clara "Criteria for Local Significance" because it lacks history integrity. |

| Address | More than 50 Years Old | Eligible under CRHR Criteria | Eligible under City Criteria |
|---|---|---|---|
| 645 Benton Street | Yes | The house at 645 Benton Street individually also does not appear to have significant associations with local themes or cultural patterns of significance, thus the house does not appear to be eligible for the California Register under Criterion 1.<br>The original occupants of the house and subsequent owners do not appear to be significant figures in local history, thus the house does not appear to be significant under California Register Criterion 2.<br>The historic integrity of the house has been compromised by the significant remodeling of the front façade in 1965. Additionally, the house is not an exceptional or distinguished example of the Bungalow Style in Santa Clara, thus it does not appear to be eligible under California Register Criterion 3.<br>The house is not a contributing resource to a California Register eligible historic district. | The house does not appear to be eligible under the City of Santa Clara "Criteria for Local Significance" because it lacks history integrity. |
| 1188 Sherman Street | Yes | The house individually does not appear to have significant associations with local themes or cultural patterns of significance, thus the house does not appear to be eligible for the California Register under Criterion 1.<br>The original occupants of the house and subsequent owners do not appear to be significant figures in local history, thus the house does not appear to be significant under California Register Criterion 2.<br>The historic integrity of the house has been compromised by replacing the original windows with modern metal windows; covering the exterior with vinyl siding; and a large modern ca. 1970 rear addition (which more the doubled the size of the house). The house is not an exceptional or distinguished example of the vernacular neo-classical house in the Santa Clara area, thus it does not appear to be eligible under California Register Criterion 3.<br>The house is not a contributing resource to a California Register eligible historic district. | The house does not appear to be eligible under the City of Santa Clara "Criteria for Local Significance" because it lacks historic integrity, it is not a notable example of its architectural style and it is not culturally or historically significant. |
| 1250 Sherman Street | Yes | 1250 Sherman Street does not have significant associations with local themes or cultural patterns of significance, thus the building is not eligible for the California Register under Criterion 1.<br>The building is not associated with significant figures in local history, thus it does not appear to be significant under California Register Criterion 2.<br>The concrete warehouse retains a good level of integrity. However, the 1960 building is not a significant example of industrial architecture in Santa Clara, thus it does not appear to be eligible under California Register Criterion 3.<br>The building is not a contributing resource to a California Register eligible historic district. | The building does not appear to be eligible under the City of Santa Clara "Criteria for Local Significance" because it is not culturally, historically or architecturally significant. |

| Address | More than 50 Years Old | Eligible under CRHR Criteria | Eligible under City Criteria |
|---|---|---|---|
| *3370 The Alameda* | Yes | The house individually does not appear to have significant associations with local themes or cultural patterns of significance, thus the house does not appear to be eligible for the California Register under Criterion 1.<br>The original occupants of the house – Mary and Pasquale Verzi – and subsequent owners do not appear to be significant figures in local history, thus the house does not appear to be significant under California Register Criterion 2.<br>*The house retains a high level of historic integrity (i.e. no major alterations) on both the exterior and interior. The house is an excellent example of the Craftsman Bungalow Style in Santa Clara, thus it appears eligible for the California Register under Criterion 3.*<br>The house is not a contributing resource to a California Register eligible historic district. | *The house appears eligible under the City of Santa Clara "Criteria for Local Significance" Criterion 1 of the "Criterion for Architectural Significance" i.e. "The property characterizes an architectural style associated with a particular era."* |
| 3390 The Alameda | Yes | The building does not have significant associations with local themes or cultural patterns of significance, thus the building is not eligible for the California Register under Criterion 1.<br>Neither Joe Amaral nor James Viso – as plumbing contractors – appear to be significant figures in local history, thus the building does not appear to be significant under California Register Criterion 2.<br>The office building retains a good level of historic integrity. The building is an attractive but not exceptional example of the Spanish Colonial Revival in Santa Clara, thus it does not appear to be eligible under California Register Criterion 3.<br>The building is not a contributing resource to a California Register eligible historic district. | The building does not appear to be eligible under the City of Santa Clara "Criteria for Local Significance" because it is not culturally, historically or architecturally significant. |
| 660 Fremont Street | Yes | 660 Fremont does not have significant associations with local themes or cultural patterns of significance, thus the building is not eligible for the California Register under Criterion 1.<br>Neither Joe Amaral nor James Viso – as plumbing contractors – appear to be significant figures in local history, thus the building does not appear to be significant under California Register Criterion 2.<br>The ca. late 1940s warehouse is not a significant example of industrial architecture in Santa Clara, thus it does not appear to be eligible under California Register Criterion 3.<br>The building is not a contributing resource to a California Register eligible historic district. | The building does not appear to be eligible under the City of Santa Clara "Criteria for Local Significance" because it is not culturally, historically or architecturally significant. |

| Address | More than 50 Years Old | Eligible under CRHR Criteria | Eligible under City Criteria |
|---|---|---|---|
| *3410 The Alameda* | Yes | The house does not appear to have significant associations with local themes or cultural patterns of significance, thus the house does not appear to be eligible for the California Register under Criterion 1.<br>The occupants of the house changed frequently over the years. The original occupants of the house and subsequent owners do not appear to be significant figures in local history, thus the house does not appear to be significant under California Register Criterion 2.<br>The simple vernacular folk house dates from the 19th century. The house lack historic integrity and would not be eligible under California Register Criterion 3.<br>The house is not a contributing resource to a California Register eligible historic district. | *The house appears eligible under the City of Santa Clara "Criteria for Local Significance" Criterion 1 of the "Criterion for Architectural Significance" i.e. "The property characterizes an architectural style associated with a particular era." The intact front façade "characterizes an architectural style associated with a particular era."* |
| 663 Fremont Street | Yes | The building does not appear to have significant associations with local themes or cultural patterns of significance, thus the house does not appear to be eligible for the California Register under Criterion 1.<br>The original tenants and subsequent tenants do not appear to be significant figures in local history, thus the apartment does not appear to be significant under California Register Criterion 2.<br>The apartment building retains historic integrity. The building is an undistinguished example of a 1950s apartment building in Santa Clara, thus it does not appear to be eligible under California Register Criterion 3.<br>Apartment building is not a contributing resource to CA register eligible historic district. | The building does not appear to be eligible under the City of Santa Clara "Criteria for Local Significance" because it is not culturally, historically or architecturally significant. |

*Source: Hill, 2015*
*Italics indicate that the structure is eligible under CRHR or City criteria.*

The project site is located in the westernmost portion of the original 1866 "official" grid (or historic quad) of Santa Clara, surveyed by W.W. Bowen in 1866. The historic quad is an area approximately 10 by 10 blocks bounded by Bellomy Street, Lincoln Street, Clay Street and Sherman Street. The original Santa Clara grid overall has been extensively altered since the official 1866 survey. Although parts of the original grid include areas of eligible historic districts where early periods of historic development remain intact, many streets surrounding the original blocks platted in 1866 have been filled in by modern development.

The project area includes about two blocks at the northeast corner of the quad. The original grid near the project area has been altered by the realignment and widening of El Camino Real in 1982 and later development. The project area lacks the historic continuity and linkages between the buildings needed to

retain historic integrity and to be considered an "identifiable" entity as an historic district.[2] The historic integrity of the grid has been compromised by many modern intrusions and the loss of many of the early buildings (primarily houses). The small section of the grid that includes the project area is not an historical resource under California Register criteria or the criteria of the City of Santa Clara Criteria of Local Significance (Hill 2015).

### 4.2.2.5 Native American Consultation

The project is subject to laws requiring consultation with the Native American community. The project will require rezoning for higher density residential occupancy, which will in turn require amendment to the City's General Plan, thus triggering the Native American consultation process identified in Senate Bill 18 (State of California 2005). The SB 18 process provides an opportunity for selected Native American tribes and representatives to formally participate directly with the City in consultation about the impacts of the project on traditionally important resources. The City sent a notice to request consultation pursuant to SB18 to all the tribes on a list previously provided by the Native American Heritage Commission (NAHC). One tribal representative has contacted the City to date and requested that a tribal monitor be present when archaeologists are present and that Ohlone descendants be informed of any tribal resources discovered at the site.

### 4.2.2.6 Paleontological Resources

A search of the University of California Museum of Paleontology Specimen Search database indicated that there are no known paleontological resources within the City of Santa Clara (UCMP 2015). The City of Santa Clara is located a significant distance from the bay and situated on alluvial fan deposits of the Holocene age (less than 10,000 years old), consisting of gravel, sand and finer sediments. The Holocene age deposits on the surface are underlain by Pleistocene age strata, which is in turn underlain by the Santa Clara Formation. Geologic units of Holocene age are generally not considered sensitive for paleontological resources, because biological remains younger than 10,000 years are not usually considered fossils. However, older Pleistocene sediments and Santa Clara Formation deposits are considered sensitive for paleontological resources (CSC 2011).

---

2 The definition of what constitutes an historic district can be found on page 5, *National Register Bulletin – How to Apply The National Register Criteria for Evaluation* ( revised 1998) and the California Register regulations (Title 14, Chapter 11.5; January 1, 1998) Appendix A Glossary of Terms, page 16.

## 4.2.3 REGULATORY CONSIDERATIONS

### 4.2.3.1 Federal Regulations

#### *National Historic Preservation Act, Section 106*

The National Historic Preservation Act (NHPA) establishes the National Register of Historic Places (NRHP), and defines federal criteria for determining the historical significance of archaeological sites, historic buildings and other resources. To be determined eligible for the NRHP, a potential historic property must meet one of four historical significance criteria (listed below), and also must possess sufficient deposition, architectural, or historic integrity to retain the ability to convey the resource's historic significance. Resources determined to meet these criteria are eligible for listing in the NRHP and are termed historic properties. A resource may be eligible at the local, state, or national level of significance.

A property is eligible for the NRHP if it possesses integrity of location, design, setting, materials, workmanship, feeling, and association, and it:

1. is associated with events that have made a significant contribution to the broad patterns of our history;
2. is associated with the lives of a person or persons of significance in our past;
3. embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction; or
4. has yielded or may be likely to yield information important in prehistory or history.

A resource that lacks historic integrity or does not meet one of the NRHP criteria of eligibility is not considered a historic property under federal law, and effects to such a resource are not considered significant under the NHPA. Because the project does not require any federal permits or approvals, compliance with the NHPA is not necessary.

### 4.2.3.2 State Regulations

#### *California Environmental Quality Act*

Under the *California Environmental Quality Act (CEQA) Guidelines* Section 15064.5, a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The Guidelines define cultural resources as including both

historical and archaeological properties, set forth criteria for evaluating the significance of historical resources, and state that cultural resources that meet the criteria of eligibility for the CRHR are significant historical resources. CEQA also includes two classes of archaeological resources: archaeological sites that meet the definition of a historical resource, and "unique archaeological resources" and requires public agencies to consider the effects of their actions on both "historical resources" and "unique archaeological resources." The CEQA Guidelines (Section 15064.5(c)) provide specific guidance on the treatment of archaeological resources, depending on whether they meet the definition of a historical resource or a unique archaeological resource.

**Historical Resources**

For purposes of this EIR, the term "historical resource" encompasses features of the built environment (also termed historic architectural resources) and archaeological resources. A historical resource includes any resource listed in or determined to be eligible for listing in the California Register or listed on the City's list of historical resources, which is included in the City's General Plan as discussed in **Section 4.2.3.3** below. The California Register includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest. If a resource is not already listed in the California Register, the lead agency has a responsibility to evaluate the resource against the California Register criteria. In order for a resource to be eligible for the California Register, it must satisfy all of the following three criteria (1, 2, & 3):

1. A property must be significant at the local, state or national level, under one or more of the following four "Criteria of Significance" (these are essentially the same as National Register criteria with more emphasis on California history):

    a. the resource is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history and cultural heritage of California or the United States.

    b. the resource is associated with the lives of persons important to the nation or to California's past.

    c. the resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.

    d. the resource has the potential to yield information important to the prehistory or history of the state or the nation (this criteria applies primarily to archaeological sites).

2. the resource retains historic integrity3 and;

3. it is 50 years old or older (except for rare cases of structures of exceptional significance).

**Unique Archaeological Resources**

Under CEQA, an archaeological resource is considered "unique" if it:

- contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- is directly associated with a scientifically recognized important prehistoric or historic event or person (Public Resources Code 21083.2(g))

**Impacts on Historical or Unique Archaeological Resources**

As noted above, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." A "substantial adverse change" in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired (CEQA Guidelines Section 15064.5(b)(1)). CEQA also states that if a proposed project would result in an impact that might cause a substantial adverse change in the significance of a historical resource, then an EIR must be prepared and mitigation measures should be considered.

Public Resources Code 21083.2 requires agencies to determine whether the proposed project would have a significant effect on unique archaeological resources and prescribes mitigation for significant impacts.

## *Senate Bill 18*

Senate Bill (SB) 18 requires cities and counties to contact, and consult with California Native American tribes prior to making land use decisions. The bill requires local governments to provide notice to tribes at certain key points in the planning process. These consultation and notice requirements apply to adoption and amendment of general plans (defined in Government Code §65300 et seq.). For projects proposed on or after March 1, 2005, the city or county shall conduct consultations with California Native

---

3 Integrity is defined as the retention of the resource's physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling, and association of the resource (CSC 2011).

American tribes that are on the contact list maintained by the Native American Heritage Commission (NAHC) for the purpose of preserving or mitigating impacts to places, features, and objects described in Sections 5097.9 and 5097.995 of the Public Resources Code that are located within the city or county's jurisdiction.

The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level land use decisions are made by a local government.

### 4.2.3.3 Local Plans and Policies

#### *City of Santa Clara General Plan*

The City of Santa Clara General Plan contains goals and policies relating to the development and preservation of cultural resources in the City. General Plan policies relevant to the proposed project are as follows:

**Archaeological and Cultural Resources Goals**

**Goal 5.6.3-G1** Protection and preservation of cultural resources, as well as archaeological and paleontological sites.

**Goal 5.6.3-G2** Appropriate mitigation in the event that human remains, archaeological resources, or paleontological resources are discovered during construction activities.

**Archaeological and Cultural Resources Policies**

**Policy 5.6.3-P1** Require that new development avoid or reduce potential impacts to archaeological, paleontological and cultural resources.

**Policy 5.6.3-P2** Encourage salvage and preservation of scientifically valuable paleontological or archaeological materials.

**Policy 5.6.3-P3** Consult with California Native American tribes prior to considering amendments to the City's General Plan.

**Policy 5.6.3-P4** Require that a qualified paleontologist/archaeologist monitor all grading and/or excavation if there is a potential to affect archeological or paleontological resources, including sites within 500 feet of natural water courses and in the Old Quad neighborhood.

**Policy 5.6.3-P5** In the event that archaeological/paleontological resources are discovered, require that work be suspended until the significance of the find and recommended actions are determined by a qualified archaeologist/paleontologist.

**Policy 5.6.3-P6** In the event that human remains are discovered, work with the appropriate Native American representative and follow the procedures set forth in State law.

**Criteria for Local Significance**

In addition to the policies listed above, General Plan Appendix 8.9 includes the Criteria for Local Significance, which were adopted by the City of Santa Clara City Council on April 20, 2004. The criteria establish evaluation measures to ensure that the resource is at least 50 years old and that the property is associated with an important individual or event, an architectural innovation, and/or an archaeological contribution in order to be deemed significant. The criteria are presented below.

***Qualified Historic Resource***

Any building, site, or property in the City that is 50 years old or older and meets certain criteria of architectural, cultural, historical, geographical, or archeological significance is potentially eligible.

***Criteria for Historical or Cultural Significance***

To be historically or culturally significant, a property must meet at least one of the following criteria:

- The site, building, or property has character, interest, integrity and reflects the heritage and cultural development of the city, region, state, or nation.
- The property is associated with a historical event.
- The property is associated with an important individual or group who contributed in a significant way to the political, social, and/or cultural life of the community.
- The property is associated with a significant industrial, institutional, commercial, agricultural, or transportation activity.
- A building's direct association with broad patterns of local area history, including development and settlement patterns, early or important transportation routes or social, political, or economic trends and activities. Included is the recognition of urban street pattern and infrastructure.

- A notable historical relationship between a site, building, or property's site and its immediate environment, including original native trees, topographical features, outbuildings, or agricultural setting.

***Criteria for Architectural Significance***

To be architecturally significant, a property must meet at least one of the following criteria:

- The property characterizes an architectural style associated with a particular era and/or ethnic group.
- The property is identified with a particular architect, master builder, or craftsman.
- The property is architecturally unique or innovative.
- The property has a strong or unique relationship to other areas potentially eligible for preservation because of architectural significance.
- The property has a visual symbolic meaning or appeal for the community.
- A building's unique or uncommon building materials, or its historically early or innovative method of construction or assembly.
- A building's notable or special attributes of an aesthetic or functional nature. These may include massing, proportion, materials, details, fenestration, ornamentation, artwork or functional layout.

***Criteria for Geographic Significance***

To be geographically significant, a property must meet at least one of the following criteria:

- A neighborhood, group or unique area directly associated with broad patterns of local area history.
- A building's continuity and compatibility with adjacent buildings and/or visual contribution to a group of similar buildings.
- An intact, historical landscape or landscape features associated with an existing building.
- A notable use of landscaping design in conjunction with an existing building.

***Criteria for Archaeological Significance***

For the purposes of CEQA, an "important archaeological resource" is one which:

- is associated with an event or person of
  - Recognized significance in California or American history, or
  - Recognized scientific importance in prehistory.

- can provide information, which is both of demonstrable public interest, and useful in addressing scientifically consequential and reasonable or archaeological research questions;
- has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
- is at least 100 years old and possesses substantial stratigraphic integrity; or
- involves important research questions that historical research has shown can be answered only with archaeological methods.

### *Santa Clara City Code*

Title 12, Chapter 12.25 of the Santa Clara City Code contains "mitigation requirements for potentially significant archaeological impacts." If, during the course of construction or grading activities, a cultural resource is found, all work within 50 feet of the find must stop and a qualified archaeologist is to examine the find, determine its significance, and submit a treatment plan to the City. Other requirements in this section include monitoring of earth-moving activities by a qualified archaeologist if archaeological resources are found on-site and notification of the County Coroner if Native American remains are found.

## 4.2.4 IMPACTS AND MITIGATION MEASURES

### 4.2.4.1 Significance Criteria

The impact of the proposed project on cultural resources would be considered significant if it would exceed the following Standards of Significance, in accordance with Appendix G of the *State CEQA Guidelines*:

- cause a substantial adverse change in the significance of a historical resource as defined in *State CEQA Guidelines* §15064.5;
- cause a substantial adverse change in the significance of an archaeological resource pursuant to *State CEQA Guidelines* §15064.5;
- directly or indirectly destroy a unique paleontological resource or site or unique geological feature; or
- disturb any human remains, including those interred outside of formal cemeteries.

### 4.2.4.2 Methodology

The analysis below compares identified impacts based on information from the Cultural Resources Treatment Plan and the Historic Architecture Evaluation Report to the standards of significance stated above and determines the impact's level of significance under CEQA. If the impact is determined to be

significant, the analysis identifies feasible mitigation measures to eliminate the impact or reduce it to a less than significant level. If the impact cannot be reduced to a less than significant level after implementation of all feasible mitigation measures, then the impact is identified as significant and unavoidable. The project's potential contribution to cumulative impacts is also identified.

### 4.2.4.3 Project Impacts and Mitigation Measures

**Impact CUL-1: The proposed project would potentially cause a substantial adverse change in the significance of a historical architectural resource as defined in CEQA Guidelines §15064.5. (*Significant; Significant and Unavoidable*)**

The project, as described in the NOP, included additional land parcels and buildings, including two historic Queen Anne single-family homes to the north of the current project site. The project was redesigned to avoid any impacts to the Queen Anne homes. There are 13 buildings located within the project site described within this EIR. Three out of the 13 buildings are less than 50 years old, which include the warehouse at 602 Fremont Street, the duplex at 611-613 Sherman Street, and the commercial building at 3300-3340 The Alameda. Due to the fact that these buildings are less than 50 years old, these three buildings are not eligible under the criteria of the California Register or the City of Santa Clara Criteria of Local Significance (Hill 2015).

DPR 523 forms, Primary Record and Building, Structure and Object Records, were completed for the 10 buildings that are over 50 years old. As noted in **Table 4.2-1** above, eight out of the 10 buildings, which include the three single-family houses at 1188 Sherman Street, 645 Benton Street, and 625 Benton Street; three warehouses at 575 Benton Street, 660 Fremont Street and 1250 Sherman Street; office building at 3390 The Alameda; and multi-unit residential building at 663 Fremont Street, are not eligible under the criteria of the California Register or the City of Santa Clara Criteria of Local Significance. These buildings are, therefore, not considered historical resources under CEQA (Hill 2015). The demolition of these buildings to construct the project would not result in a significant impact on a historical resource (Hill 2015).

The two houses at 3370 The Alameda and 3410 The Alameda were also evaluated using the criteria of the California Register as well as the City of Santa Clara Criteria of Local Significance. The residence at 3370 The Alameda does not appear to have significant associations with local themes or cultural patterns of significance, thus the house does not appear to be eligible for the California Register under Criterion 1. The original occupants of the house, Mary and Pasquale Verzi, and subsequent owners do not appear to be significant figures in local history. Therefore, the house does not appear to be significant under California Register Criterion 2. However, it appears to be eligible under California Register Criterion 3 as

an excellent example of Craftsman Bungalow architecture in Santa Clara. It also retains a high level of historic integrity, with no major alterations, on both the exterior and interior of the building. For both these reasons, the house appears to be eligible for the California Register. Additionally, it appears to be eligible under the City of Santa Clara Criteria of Local Significance Criterion 1 of the Criterion for Architectural Significance because its intact front façade "characterizes an architectural style associated with a particular era." The house is, however, not a contributing resource to a California Register eligible historic district (Hill 2015).

The single-family home at 3410 The Alameda is not eligible for the California Register because it does not satisfy any of the three required criteria. The house does not appear to have significant associations with local themes or cultural patterns of significance, thus the house does not appear to be eligible for the California Register under Criterion 1. The occupants of the house changed frequently over the years. The original occupants of the house and subsequent owners do not appear to be significant figures in local history, thus the house does not appear to be significant under California Register Criterion 2. The single-family home at 3410 The Alameda is a simple vernacular folk house that dates from the 19th century. The interior has been remodeled and the house has significant additions on both the south and north ends. Originally, the single-family home had an L-shaped plan, but overtime a second gable on the south was built parallel to the original gable on the north and another addition extends north from the north façade. As the house lacks historic integrity, it does not appear to be eligible under California Register Criterion 3. Therefore, the single-family home at 3410 The Alameda is not eligible for the California Register. Additionally, the house also is not a contributing resource to a California Register eligible historic district (Hill 2015). However, it appears to be eligible under the City of Santa Clara Criteria of Local Significance Criterion 1 of the Criteria for Architectural Significance because its intact front façade "characterizes an architectural style associated with a particular era."

Under the proposed project, the houses at 3370 The Alameda and 3410 The Alameda would be demolished. Since both single-family homes appear to meet the City of Santa Clara's Criteria for Local Significance and the home at 3370 The Alameda also appears to be individually eligible for the California Register, the demolition of the buildings would represent a significant impact on historical resources.

As noted earlier, a small section of the Santa Clara grid is present on the project site. Although parts of the original grid include areas of eligible historic districts where early periods of historic development remain intact, many streets surrounding the original blocks platted in 1866 have been filled in by modern development and the original Santa Clara grid overall has been extensively altered since the official 1866 survey. The section of the grid on the project site has also been altered and filled in by modern development and is therefore has been determined as not a historical resource eligible for the California Register or the City of Santa Clara Criteria of Local Significance (Hill 2015).

**Mitigation Measures CUL-1a through 1d** are set forth below to mitigate the project's significant impact on the two homes determined to be historical resources. **Mitigation Measure CUL-1a** requires the applicant to relocate the buildings. Moving the buildings to a different location appropriate to their historic character would not represent a substantial adverse change. The two buildings are significant because of their architectural design, thus moving them would not substantially compromise their character defining features. A priority should be to relocate the houses to sites within the Santa Clara historic quad or grid, or other appropriate setting as determined by the City of Santa Clara Planning Department. As the houses are stud-wall, wood-frame structures, moving the buildings is likely to be feasible. Therefore, if the buildings located at 3410 or 3370 The Alameda were relocated to an appropriate location, project impacts would be reduced to a less than significant level and further mitigation would not be required.

In the event that moving the two homes is determined to be infeasible and the residences must be demolished, **Mitigation Measures CUL-1b through CUL-1d**, alone or in combination, shall be implemented. These mitigation measures would help to reduce the project's impact but would not mitigate it to a less than significant level.

**Mitigation Measures:**

**CUL-1a** If feasible, the houses at 3410 and 3370 The Alameda shall be moved to a different location appropriate to their historic character, preferably within the Santa Clara historic quad or grid, or other appropriate setting as determined by the City of Santa Clara Planning Department prior to relocation of the building. The project applicant has agreed to pay for the relocation costs. However, a recipient site may not be available and hence relocation may not be feasible.

**CUL-1b** If relocating either of the two buildings is determined to be infeasible, the salvage of materials and features of the buildings located on this parcel is recommended. Representatives of the Santa Clara Planning Department, the Santa Clara Historical Commission, the other citizen groups and parties interested in historical resources shall be given the opportunity to examine the buildings and provide suggestions for salvaging and relocating elements of the buildings. The project impact will be reduced commensurate with the percentage of the existing buildings that can be incorporated into the design for any new buildings on site or in other buildings in Santa Clara, or otherwise preserved.

**CUL-1c** If relocating either of the two buildings is determined to be infeasible, historic documentation of the two houses shall be completed prior to salvage or demolition. This documentation shall be according to the Outline Format described in the Historic American Buildings Survey Guidelines for Preparing Written Historical Descriptive Data (Pacific Coast Basin Regional Office, U.S. National Park Service, 1993) and the Photographic Specifications – Historic American Building Survey (U.S. National Park Service, 1989). The documentation, with original photo prints and negatives, should be placed in an historical archive or history collection accessible to the general public (such as the Santa Clara Main Library History Pavilion).

**CUL-1d** If relocating either of the two buildings is determined to be infeasible, a public exhibit/education program to present interpretive information on the early residential development and architecture of the project area and vicinity shall be prepared by the Applicant. The exhibit shall be placed on site, at the Santa Clara Historic Museum in the Headen-Inman House, or other appropriate venue in Santa Clara, as determined by the City of Santa Clara Planning Department prior to placement of the public exhibit/education program.

**Significance after Mitigation:** If the two homes are relocated per **Mitigation Measure CUL-1a,** the impact would be less than significant. However, if the two homes are demolished and **Mitigation Measures CUL-1b** through **1d** are implemented, the remaining impact would be significant and unavoidable.

---

**Impact CUL-2:** **The proposed project would potentially cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5, and would potentially disturb any human remains, including those interred outside of formal cemeteries. (*Potentially Significant; Less than Significant with Mitigation*)**

The project could potentially affect known archaeological resources, as well as currently unknown archaeological resources, directly or indirectly. Such impacts could occur due to excavation for building footers and sub-grade levels of the parking garage, infrastructure, landscaping, and any other ground disturbing activities on the project site and in the area of the off-site utility improvements. As described in **Section 4.2.2.2** above, the project site is within 200 feet of the third site of Santa Clara Mission, and exploratory trenching on the project site has provided evidence of the presence of one buried

archaeological resource on the project site. Based on the available information, the southern and northeastern portions of the project site are considered highly sensitive for buried archaeological resources related to the Santa Clara Mission as well as Native American habitation of the area prior to the establishment of the Mission, whereas the remainder of the site is considered less sensitive for archaeological resources. There is also a potential for discovery of unknown archaeological resources in the areas where off-site utility improvements would be constructed, due to the proximity to known resources discovered during trenching in nearby streets. The potential to encounter and adversely affect sensitive archaeological resources belonging to the Pre-Colonial, Spanish Colonial, and American Eras, including human burials, is evaluated below.

### *Impacts on Pre-Colonial Era Resources*

As discussed in **Section 4.2.2.3** above, based on exploratory trenching there are no known Pre-Colonial resources on the project site. However, due to the presence of known Pre-Colonial resources in the project vicinity, there is low to moderate potential that Pre-Colonial resources could be encountered on site. The Alameda Native American Burial Site, CA-SCL-755, is located beneath the SCU campus. The burials closest to the project site, approximately 711 feet south, were discovered in 1997 during construction of the Arts and Sciences Building at SCU, while nine sets of human remains were found underneath an asphalt parking lot. During construction activities dating from 1924 to 2010, 21 additional Pre-Colonial burials were discovered throughout the campus. According to the SCU Campus Director of Cultural Resources Management, CA-SCL-755 appears to be a formalized cemetery rather than a habitation site, judging by the virtual lack of midden and other habitation debris associated with the burials. Habitation sites typically include features such as middens, lithic scatters, pit houses, and isolates. Another scenario she put forth was that the midden may have been stripped off CA-SCL-755 over the years, and all that remains are the basal layers containing the burials. Although a Pre-Mission habitation site has not yet been discovered within SCU boundaries, there remains a low possibility that such a habitation site may exist within the project site. Consequently, archaeological resources, especially Pre-Colonial human burials, may be encountered during construction activities at the project site. This is further bolstered by the fact that the boundaries of CA-SCL-755 have never definitively been determined, and thus might extend northward some unspecified distance (Albion 2015).

Any inadvertent disturbance to previously unknown pre-historic archaeological resources, including human remains, during excavation and grading for project construction would be a significant impact.

### *Impacts on Spanish Colonial Era Resources*

As described in **Section 4.2.2.3**, exploratory trenching uncovered the remains of a Mission Period cobblestone building footing within Trench C on the project site. This foundation wall may be related to mission industrial activities, such as a blacksmith shop (Albion 2015). In addition to this known feature, the potential to encounter other features associated with the Mission is high. As noted in **Section 4.2.2.2**, the Santa Clara Mission site included agricultural features such as orchards and associated adobe walls, threshing floors, livestock corrals, or irrigation canals. Due to the project site's proximity to the Mission site, the potential for Mission Period agricultural features to be encountered within the project site is high. Additionally, documentary evidence suggests there is high potential to encounter intact features along the eastern side of the project site associated with mission industrial activities, such as storehouses, looms, a school, and blacksmith shop.

The Santa Clara Mission site also included resources such as, but not limited to, adobe housing, living and work surfaces, and refuse deposits associated with the Indian Ranchería. The known extent of the Indian Ranchería is currently defined by the third and fifth Mission churches on the southern and eastern ends, and the St. Clare Commons deposit to the northwest. All areas within that defined space have an exceptionally high potential for uncovering new Mission Period deposits related to the Indian Ranchería. There is a high possibility that adobe or Native-style housing and refuse deposits exist in the project site, especially on the southern edge along Benton Street and the western edge along The Alameda. Furthermore, the project site contains identified neophyte housing features associated with the extant Woman's Adobe. During the remodeling of the adobe in 2014, a Mission Period refuse pit feature, 110 feet southwest of the project site, was discovered (Albion 2015).

As noted earlier, the third Mission site, located south of the project site, is extremely sensitive for the presence of human remains. Although historic maps show the northern boundary of the cemetery on the Mission site as being 155 feet south of the project site, the actual boundaries have yet to be archaeologically verified. Given this archaeological and historic evidence, the potential for Mission Period burials within the project site is moderate (Albion 2015).

Any inadvertent disturbance to previously known and unknown Spanish Colonial Era archaeological resources, including human remains, during excavation and grading for project construction would represent a significant impact.

### *Late Mexican and American Era Resources*

As previously mentioned, after Mission secularization, Santa Clara transformed into a working class neighborhood of European Immigrants. The neighborhood within which the project site lies developed as

a mixture of residential and business/industrial uses. Historical research identified the owners of the lots within the project site from the mid-1800s through modern times. Additionally, significant infrastructure features such as early sewer lines, trolley lines, and railroads from the American Period were also identified near the project site (Albion 2015). Two significant features of the infrastructure property type were identified in the areas surrounding the project site. The first feature is characterized as a wood box drain that extends between two privies. The presence of this feature indicates at least a partial sewer system within this American Period neighborhood. While monitoring for utilities within Franklin Street between Alviso Street and The Alameda, archaeologists identified two sets of railroad ties and supporting ballasts. This railroad feature was found to be well preserved, lying just below, and occasionally embedded within, the road (Albion 2015).

As described in Section **4.2.2.3** above, limited investigation on the project site uncovered bottles from the Late American Period, dating from 1880 to the 1930s, within Trench A. While not clearly associated with any feature, like a privy or refuse pit, these artifacts may suggest that one such feature is nearby. Other disturbances noted during testing included historic trenching within Trench D and evidence of modern construction disturbances in Trench B.

**Mitigation Measures CUL-2a** and **CUL-2b** are set forth below to avoid and minimize impacts to any significant pre-historic, Spanish Colonial era, and American Period archaeological resources, including human remains, that are encountered during project construction.

**Mitigation Measure CUL-2a** presents a Cultural Resources Treatment Plan, which includes preservation of significant historical resources in place, where feasible, and outlines a detailed data recovery plan for resources that cannot be preserved. According to CEQA Guidelines (15126.4(b)(3)(A)), preservation in place is the preferred mitigation for historical resources of an archaeological nature because such practice "maintains the relationship between artifacts and the archaeological context" and "may also avoid conflict with religious or cultural values of groups associated with the site." Preservation in place may be accomplished by, but is not limited to:

1. Planning construction to avoid archaeological sites;
2. Incorporation of sites within parks, greenspace, or other open space;
3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site.
4. Deeding the site into a permanent conservation easement" (CEQA Guidelines 15126.4(b)(3)(B)).

The project site is a compact 5.7-acre infill site that would be redeveloped with a high-density mixed-use development, including subterranean parking, in order to achieve the project objectives outlined in **Section 3.3**. Given the compact nature of the project site, preservation in place would require measures such as changing the site design by eliminating buildings or subterranean parking, preserving resources in open space, greenspace, or areas where construction activities have limited ground disturbance such as sidewalks and surface parking lots, and redesigning interior utilities and/or landscaping features. Preservation could also require potentially cost-prohibitive engineering practices such as bridges over resources and bores underneath them. For the majority of impacts to unknown archaeological resources that may be encountered within the project's development footprint, preservation in place would not feasible because changing the site design by eliminating buildings and/or subterranean parking would be inconsistent with the City's project objectives to create a mixed use development that maximizes density with accessibility to alternate transportation modes and integrates pedestrian, bicycle, transit, open space and outdoor uses to encourage active centers, and to redevelop underutilized properties with higher density housing project along established transit corridors, consistent with the City's long term development goals. It would also be inconsistent with the Applicant's project objectives, which are consistent with the City's and include the objective to develop a community that incorporates smart growth elements such as redevelopment of underutilized properties and implementation of higher density development along established transit corridors and create a sustainable infill mixed-use residential project that complements adjacent residential neighborhoods to the west and south and nearby Santa Clara University. Furthermore, to the extent engineering practices required to achieve preservation in place would be cost-prohibitive, they would be inconsistent with the applicant's Project Objective to develop a well-designed, economically feasible residential community that consists of a variety of residential products and unit types. Accordingly, for the majority of impacts to unknown archaeological resources within the project site, data recovery provides the only feasible mitigation that will achieve the project objectives and serve the interests protected by CEQA.

**Mitigation Measure CUL-2b** would ensure proper procedures are implemented in the event that human remains are discovered. Implementation of both mitigation measures would reduce the project's impacts on known and unknown significant archaeological resources to a less than significant level.

**Mitigation Measures:**

**CUL-2a** **Cultural Resources Treatment Plan:** The Treatment Plan (presented in **Appendix 4.2**) will be implemented by the Applicant to mitigate the project's potentially significant impacts on archaeological resources that are encountered during project site excavation and grading. The Treatment Plan identifies a series of specific measures for areas of sensitivity within the project site, and construction monitoring for the remainder of the

project site. Key aspects of the Treatment Plan are summarized below; refer to **Appendix 4.2,** Cultural Resources Treatment Plan, pages 122 through 143, for the complete Treatment Plan that shall be implemented.

**Mitigation for Less Sensitive Areas**

**Construction Monitoring during Ground Disturbance.** Areas not known to be sensitive shall be monitored by a trained archaeologist during ground disturbing activities. Archaeological monitors shall observe all initial grading within the northeast portion of the project site. If archaeological materials are found, all work within 50 feet of the find shall stop. The monitor and the archaeological team shall conduct a rapid significance assessment as described below. If the archaeologist determines that an archaeological feature is significant under CEQA, the feature shall be subject to data recovery mitigation to reduce adverse impacts to less than significant. Data recovery, if undertaken, will follow the procedures for excavation, analysis, and reporting defined in the Treatment Plan and set forth below.

**Mitigation for Areas of Sensitivity**

The Treatment Plan requires that an archaeological team shall be given access to conduct mechanical excavation in "open spaces" within the area of sensitivity, including parking lots, back yards, and access ways. Then after demolition permits are awarded, an archaeological team shall be given access to conduct mechanical excavation and examine areas of sensitivity underneath existing structures.

The key elements of the Treatment Plan for sensitive areas are summarized below:

**A. Excavation and Evaluation of Pre-Colonial Era Resources**

1. Mechanical Excavation. A mechanical trenching program in conjunction with the screening of soils shall be implemented to investigate the presence of previously unidentified buried Pre-Colonial deposits within the project site. Between 3 and 5 trenches shall be excavated within the project parcel. These trenches shall measure 2 meters in length and be excavated to Native soil, unless an archaeological feature is encountered prior to reaching Native soil. Excavation shall involve a backhoe equipped with a 46 cm flat-bladed bucket.

2. Evaluation of Significance. If no Pre-Colonial archaeological deposits are encountered during mechanical excavation, or are found in disturbed contexts, no further action is required. If intact archaeological deposits are encountered, additional archaeological excavation shall be required to evaluate the site in accordance with CEQA Guidelines Section 15064.5(c), and if needed, implement appropriate mitigation measures as set forth in the Treatment Plan.

   If intact Pre-Colonial deposits are encountered during mechanical excavation, excavation of 1 to 2 Surface Transect Units (STUs) of 1 x 0.5 meters in size shall be conducted in each identified site or area of intact deposit to assess the spatial extent and structure of the subsurface deposits. Archaeologists shall dry screen all materials using 1/8 inch mesh and identify and map all encountered features. A 2-liter soil sample shall be retained for flotation and paleobotanical analysis.

   Determining the significance of Pre-Colonial resources shall be guided by CEQA. In case of Pre-Colonial resources, however, the majority of significance assessments typically falls under Criterion D ([Section 15064.5 (a) (3) of the CEQA Guidelines]), where an archaeological site or resource will be considered significant, if it can be demonstrated that it has the potential to contribute important information pertinent to prehistory or history. Based on previous research in the area, the archaeological resources that will likely be encountered include midden sites, lithic scatters, burial complexes or cemeteries, residential sites, and isolates.

3. If and when any of these resources are encountered at the project site, they will first be assessed for integrity. In most cases, once a positive integrity has been established, the Pre-Colonial resource is considered significant, at least for evaluation purposes. This does not mean, however, that the resource is necessarily significant under National Register or California Register of Historic Places. Nor does it mean that one hundred percent of the site or resource will necessarily be sampled. Sampling strategies are typically employed at this juncture. Moreover, these methods need to be agreed upon by the archaeologist, property owner, City, and other specified parties in accordance with CEQA mitigation requirements and established practices.

4. Additional Archival Research. While historic documents are very useful for predicting what kinds of cultural properties may be encountered, it is rare that initial pre-field research covers all land uses within a specific area. Some activities are unreported or under-reported. For this reason, if currently unknown or unidentified

cultural resources are identified during excavation, additional archival research may be conducted during and after the fieldwork phase when necessary to characterize the resources identified.

**B. Excavation and Evaluation of Historic Era (Spanish Colonial and American) Resources**

1. Mechanical Excavation/Monitoring. A trained archaeological monitor shall direct mechanical excavation of selected regions within the project site. Monitoring shall occur after demolition but before construction grading in specific areas within the project that are determined to be the most sensitive based on background research. Mechanical excavation shall be executed using a flat-bladed bucket and removing soils in increments of 2 to 5 inches, to the depth of historic cultural features, or native subsoil, whichever comes first.

2. Evaluation of Significance. If any unknown or unidentified historic era resources are discovered during mechanical excavation, all work within 50 feet of the find shall stop, and each resource shall be assessed in accordance with CEQA Guidelines Section 15064.5(c). Each archaeological resource shall be evaluated relative to a number of criteria. For historic era archaeological resources, these criteria include: (1) integrity of the resource, (2) historic context, in space and time, (3) data potential of the archaeological resource, and (4) relevance to proposed research themes.[4] In each category, several subcategories are given a point value. Each archaeological resource will be assigned a score within each of these categories by the project Archaeologist. The total points assigned will be a general estimate of the resource significance under CEQA Criteria A, B, and/or D. The higher the score, the more likely a resource would be determined to be significant/historic resource. If a resource has integrity, good archaeological data potential, and can contribute to research themes as set forth in the Treatment Plan, it will be determined significant under CEQA Criteria A, B, and D.

3. Additional Archival Research. Research in available Spanish Colonial Mission period documents may be warranted to determine the significance of currently unknown historic era resources encountered during project construction, in accordance with

[4] The Treatment Plan identifies several proposed research themes relative to which the identified resources would be evaluated.

CEQA Guidelines Section 15064.5(c). Additional research may be warranted regarding the Early American settlement of the blocks. This may include investigation of parcel ownership records, personal histories of significant persons, or further investigation of population trends, such as neighborhood ethnicity, ethnic succession, labor patterns, or economic conditions.

**C. Preservation Plan or Data Recovery for Pre-Colonial and Historic Era Archaeological Resources**

**C.1. Preservation Plan for Pre-Colonial and Historic Era Archaeological Resources**

In portions of the project site where subsurface ground disturbance activities would not occur at a depth that could disturb the identified archaeological resource, the following conservation measures shall be implemented individually or in conjunction with each other to preserve the resource in place.

- Monitoring the resource to ensure that it is not inadvertently disturbed
- Covering the resource with water-permeable construction grade filter fabric
- Layering visible slurry sand over the resource
- Marking the feature with a permanent tag identifying the date, project and feature number

The GPS based location and shape of the resource shall be identified on project as-built drawings to insure that they would be known to facility managers and those managing the property for the life of the project.

**C.2. Data Recovery Plan for Pre-Colonial and Historic Era Archaeological Resources**

A. Data Recovery for Pre-Colonial Resources

Data recovery shall be completed in coordination with the remediation of any contaminated media to assure safe and appropriate management of recovered materials.

<u>Midden and Residential Sites.</u> These sites are anticipated to be the most structurally complex and have the greatest artifact diversity of all the resource types. Data recovery shall be conducted in contexts deemed significant and that have the potential to meet data requirements and research themes outlined in the Treatment Plan. The data recovery program may include any combination of hand excavation techniques in order

to recover the appropriate amount of information to fully address research questions outlined in the Treatment Plan.

Lithic Scatters. Lithic scatters are usually limited to formed tools and tool manufacturing debris, or what is termed "debitage." Archaeological testing and data recovery methods will be implemented. Field documentation will include mapping, level record forms, wall profiles, and photography.

Isolated Finds. Isolated finds are three or fewer artifacts that occur within a restricted spatial context. Information potential is usually limited to location, material type, style, and function of the individual artifact. Isolated artifacts would be collected, and their location mapped using GPS or other mapping techniques. Artifacts would be processed in the laboratory along with other collected cultural materials.

Burial Complexes/Cemetery. Burial features can range in complexity from a simple isolated inhumation to more elaborate interments, or formal cemeteries, containing numerous bodies. Where appropriate, and based upon Native American consultation conducted under the authority of Senate Bill 18, these features shall be hand excavated for complete removal. This effort may include mapping, photography, removal, and packaging pending the decision of the Applicant and the Most Likely Descendent (MLD) for disposition of the remains.

B. Data Recovery for Historic Era Resources

Architectural Features. If architectural features such as structural remains such as foundations, wall footings, basement walls, and floor remnants are identified, they shall be recorded through photography, drawings, and GPS data. American period architectural features with corroborated historical data would not be mitigated beyond those documentary efforts. If determined to be of the Spanish-Mission Period, the feature shall be divided in half or into quadrants, and excavated by natural stratigraphy.

Infrastructure Features. If infrastructure features are identified, they shall be recorded through photography, drawings, and GPS data. Infrastructure features with corroborated historical data would not be further mitigated beyond those documentary efforts. However, diagnostic artifacts may be collected.

Agricultural Features. If agricultural features are identified, the feature shall be recorded through photography, drawings, and GPS data. Agricultural features that do not also

contain a refuse component would not be mitigated beyond those documentary efforts. However, diagnostic artifacts may be collected.

Refuse Features. Refuse features are the most common expected historic property type, and include pits, privies, and wells. If encountered and determined to be significant, features shall be divided in half or into quadrants, and excavated by natural stratigraphy. The Field Director shall assign new context numbers as each stratigraphic layer and soil type is encountered. Descriptions of each context shall include Munsell color descriptions, texture, natural and cultural inclusions, depths below datum, thickness, and contacts between strata. Technicians shall take photographs at the start of each new context as it is encountered in the field.

Industrial Process Features. Industrial property types for the project site are expected to include features associated with 19th century warehouse facility and railroad-related structures. If industrial features are identified, and are determined to be in contaminated soils, photography and GPS data shall be collected at a safe distance. If determined to be non-hazardous, the feature shall be recoded through photography, drawings, and GPS data. Industrial features would not be mitigated beyond those documentary efforts. However, diagnostic artifacts may be collected.

Ceremonial. Ceremonial sites are where people intentionally buried their dead. Burial sites range from isolated burials in shallow holes to elaborate interments, such as whole cemeteries that may possess numerous bodies. Where appropriate and based upon Native American consultation conducted under the authority of Public Resources Code 5097.9, these features shall be hand excavated for complete removal. This effort may include mapping, photography, removal, and packaging pending the decision of the Applicant and the Most Likely Descendent (MLD) for disposition of the remains.

C. Laboratory Studies

All Pre-Colonial and Historic-Era archaeological resources and human remains shall be evaluated at a cultural resources laboratory. Resources recovered during excavation will be evaluated by following the protocol for washing, sorting, labeling, carbon dating, and other routine analyses. The resulting analytical information shall then be recorded in a computer database.

D. Curation

Upon completion of laboratory analysis, the Applicant or designee shall cause materials for curation to be placed in archival quality, long-term storage packing materials, including acid-free boxes, inert polyethylene plastic bags, and acid-free paper labels. Certain materials that do not have long-term research or interpretive value may be discarded after documentation. All curation methods shall meet current professional standards and will follow to the extent feasible the guidelines set forth in 36CFR79, Curation of Federally owned and Administered Collections. Documentary materials, such as progress reports, photographs, computer disk files, field notes, and other pertinent records must be permanently stored with the artifact collections. The land owner or designee shall make every reasonable effort to make the collection available to scholars and access shall be based on a written and accepted request.

E. Public Interpretation

The Secretary of the Interior's Standards for Archaeological Documentation encourages public interpretation of archaeological data where merited by the findings. There is a high probability for recovering resources within the project site that have the potential for expanding the public's understanding of the establishment of and life in Mission Santa Clara, the transformation of the mission to an important Mexican and later American settlement in the first years of statehood, and the development of commercial agricultural interests in the second half of the nineteenth century.

The Applicant shall participate in the historical interpretation effort in one or more of the following ways.

- The Applicant shall make all curated materials, documents, maps, photographs, and reports available to historical societies, museums, and libraries for use in interpretive displays and programs.
- The Applicant will develop interpretive outdoor signage in public spaces at the project site, which will describe both the importance of the project parcel in the history of Santa Clara, and the findings of the archaeological data recovery program.
- The Applicant shall create similar interpretive displays in interior spaces in the project structures.

**CUL-2b Discovery of Human Remains**

The treatment of human remains and of associated or unassociated funerary objects discovered during any soil-disturbing activity within the project site shall comply with applicable State laws. This shall include immediate notification of the Santa Clara County Medical Examiner and the City of Santa Clara.

In the event of the coroner's determination that the human remains are Native American, notification of the Native American Heritage Commission is required, who shall appoint a Most Likely Descendant (MLD) (Public Resources Code Section 5097.98).

The Applicant, archaeological consultant, and MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The California Public Resources Code allows 48 hours to reach agreement on these matters. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(b) which states that "the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

**Level of significance after mitigation:** The Treatment Plan described in **Mitigation Measure CUL-2a** would ensure that impacts to any significant archaeological resources discovered on the project site would be reduced to a less than significant level. **Mitigation Measure CUL-2b** would ensure human remains discovered on the project site would be handled in compliance with the law and the impact would be reduced to a less than significant level.

---

**Impact CUL-3: The proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geological feature. (*Less than Significant*)**

The project site is generally underlain by native alluvial soils consisting of interbedded complex silts, clays, and sand to a depth of at least 465 feet below ground surface (EKI 2013). As discussed above, the

alluvial fan deposits that underlie Santa Clara are generally not considered sensitive for paleontological resources. Furthermore, the site has been extensively disturbed in conjunction with the past uses of the land as well as the construction of the buildings currently located on the project site. While the proposed project would include grading and excavation activities, it is improbable that paleontological resources would be discovered because no paleontological resources have been discovered in this area of Santa Clara. This impact is considered less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

### 4.2.4.4 Cumulative Impacts and Mitigation Measures

**Cumulative Impact CUL-1:** **The proposed project, in conjunction with other past, present and reasonably foreseeable future development, could result in significant cumulative cultural resource impacts. (*Significant; Significant and Unavoidable*)**

Past developments and explorations have uncovered a city rich in cultural resources. As described in **Section 4.2.2** above, the third Mission site located on the SCU campus has been well documented historically and archaeologically, and is considered extremely sensitive for the presence of human remains, as well as other features of the Spanish Colonial era. Due to ground disturbing activities associated with development, anticipated future development in the project area as well as other portions of the City of Santa Clara has the potential to adversely affect known and unknown archaeological resources. However, anticipated future development would be subject to environmental review and required by state law to implement mitigation measures that avoid or substantially lessen potentially significant impacts to cultural resources. These mitigation measures would generally avoid or substantially lessen the severity of impacts to cultural resources (CSC 2011). As discussed above under **Impact CUL-2**, impacts of the proposed project to known and unknown archaeological resources that are present within the project footprint would be significant, and a detailed Treatment Plan is proposed under **Mitigation Measure CUL-2a** to ensure that the project's impacts to prehistoric and historic archaeological resources are reduced to a less than significant level. This Plan systematically documents all the known pre-Colonial, Spanish Colonial era, and American era resources in the project vicinity, especially those related to Mission Santa Clara. It sets forth, among other things, a resource evaluation and curation process that would ensure that the proposed project would not result in the loss of a resource that is important to expanding our understanding of the life in the Mission Santa Clara. The Plan also provides for the project land owner to make every reasonable effort to make the artifacts available to

scholars (**Appendix 4.2**, Cultural Resources Treatment Plan, page 140) Therefore, with mitigation, the contribution of the proposed project to cumulative impacts to archaeological resources in the City of Santa Clara or the broader region would not be cumulatively considerable.

As discussed in **Impact CUL-1**, the project would require the removal of two homes that were determined to be significant historical resources. In the event that the two houses are successfully relocated pursuant to **Mitigation Measure CUL-1a**, the project's contribution to the cumulative impact on historical architectural resources would not be cumulatively considerable. However, if they cannot be relocated and are demolished to construct the project, although the project would be required to implement **Mitigation Measure CUL-1b**, the project's contribution to the cumulative impact on historical architectural resources would be significant and unavoidable, and thus cumulatively considerable. As noted under **Impact CUL-1**, relocation is the only mitigation measure that would reduce the project's impact to a less than significant level. No other mitigation is available to reduce the impact to a less than significant level.

**Mitigation Measures:** No mitigation measures are feasible.

**Significance after Mitigation:** Significant and unavoidable

---

## 4.2.5 REFERENCES

Albion Environmental, Inc. 2015. Cultural Resources Treatment Plan. November.

City of Santa Clara (CSC). 2011. City of Santa Clara 2010–2035 General Plan Integrated Final Environmental Impact Report. January.

CSC. 2014. *City of Santa Clara 2010-2035 General Plan*. Adopted November 16, 2010. Amended December 2014.

Hill, Ward. 2015. Historic Architecture Evaluation Report. June.

State of California. 2015. Tribal Consultation Guidelines. November 14.

# 4.3 GREENHOUSE GAS EMISSIONS

## 4.3.1 INTRODUCTION

This section discusses the existing global, national, and statewide conditions related to greenhouse gases (GHG) and global climate change and evaluates the potential impacts on global climate from the implementation of the proposed project. The section also provides a discussion of the applicable federal, state, regional, and local agencies that regulate, monitor, and control GHG emissions. Information presented in this section is based on an Air Quality and Greenhouse Gas Emissions Assessment prepared for the proposed project by Illingworth & Rodkin, Inc., dated November 13, 2015. The report is included in **Appendix 4.1** of this Draft EIR.

## 4.3.2 ENVIRONMENTAL SETTING

### 4.3.2.1 Background

Global climate change refers to any significant change in climate measurements, such as temperature, precipitation, or wind, lasting for an extended period (i.e., decades or longer) (US EPA 2013). Climate change may result from:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation, reduction in sunlight from the addition of GHG and other gases to the atmosphere from volcanic eruptions); and
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, desertification).

The primary effect of global climate change has been a rise in the average global tropospheric temperature of 0.2 degree Celsius (°C) per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using 2000 emission rates shows that further warming is likely to occur, which would induce further changes in the global climate system during the current century (IPCC 2007). Changes to the global climate system and ecosystems, and to California, could include:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures (IPCC 2007);
- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets (model-based projections of global average sea level

rise at the end of the 21st century (2090–2099) range from 0.18 meter to 0.59 meter or 0.59 foot to 1.94 feet) (IPCC 2007);

- Changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones (IPCC 2007);
- Declining Sierra snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years (Cal EPA 2006);
- Increasing the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas located in the Southern California area and the San Joaquin Valley by the end of the 21st century (Cal EPA 2006);
- Increasing the potential for erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Delta and associated levee systems due to the rise in sea level (Cal EPA 2006);
- Increasing pest infestation, making California more susceptible to forest fires (Cal EPA 2006);
- Increasing the demand for electricity by 1 to 3 percent by 2020 due to rising temperatures resulting in hundreds of millions of dollars in extra expenditures (Cal EPA 2006); and
- Summer warming projections in the first 30 years of the 21st century ranging from about 0.5 to 2 °C (0.9 to 3.6 °F) and by the last 30 years of the 21st century, from about 1.5 to 5.8 °C (2.7 to 10.5 °F) (Cal EPA 2006).

The natural process through which heat is retained in the troposphere[1] is called the "greenhouse effect." The greenhouse effect traps heat in the troposphere through a threefold process as follows: (1) short-wave radiation in the form of visible light emitted by the Sun is absorbed by the Earth as heat; (2) long-wave radiation is re-emitted by the Earth; and (3) GHGs in the upper atmosphere absorb or trap the long-wave radiation and re-emit it back towards the Earth and into space. This third process is the focus of current climate change actions.

While water vapor and carbon dioxide ($CO_2$) are the most abundant GHGs, other trace GHGs have a greater ability to absorb and re-radiate long-wave radiation. To gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-emit long-wave radiation over a specific period. The GWP of a gas is determined using $CO_2$ as the reference gas, which has a GWP of 1 over 100 years (IPCC 1996).[2] For example, a gas with a GWP of 10 is

---

1 The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface from 6 to 7 miles).

2 All Global Warming Potentials are given as 100-year values.

10 times more potent than $CO_2$ over 100 years. The use of GWP allows GHG emissions to be reported using $CO_2$ as a baseline. The sum of each GHG multiplied by its associated GWP is referred to as "carbon dioxide equivalents" ($CO_2e$). This essentially means that 1 metric ton of a GHG with a GWP of 10 has the same climate change impacts as 10 metric tons of $CO_2$.

#### 4.3.2.2 Greenhouse Gases

State law defines GHGs to include the following six compounds:

- **Carbon Dioxide ($CO_2$)**. Carbon dioxide primarily is generated by fossil fuel combustion from stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources over the past 250 years, the concentration of carbon dioxide in the atmosphere has increased 35 percent (US EPA 2008b). Carbon dioxide is the most widely emitted GHG and is the reference gas (GWP of 1) for determining the GWP of other GHGs. In 2004, 82.8 percent of California's GHG emissions were carbon dioxide (California Energy Commission 2007).

- **Methane ($CH_4$)**. Methane is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of methane are landfills, natural gas systems, and enteric fermentation (US EPA n.d.[a]). Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The GWP of methane is 21.

- **Nitrous Oxide ($N_2O$)**. Nitrous oxide is produced by natural and human-related sources. Primary human-related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of nitrous oxide is 310.

- **Hydrofluorocarbons (HFCs)**. HFCs typically are used as refrigerants in both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing particularly as the continued phase-out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWP of HFCs ranges from 140 for HFC-152a to 6,300 for HFC-236fa.

- **Perfluorocarbons (PFCs)**. Perfluorocarbons are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. Perfluorocarbons are potent GHGs with a GWP several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years) (Energy Information Administration 2007). The GWPs of PFCs range from 5,700 to 11,900.

- **Sulfur Hexafluoride ($SF_6$)**. Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent GHG that has been evaluated by the Intergovernmental Panel on Climate Change with a GWP of 23,900. However, its global warming contribution is not as high as the GWP would indicate due to its low mixing ratio, as compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm] of $CO_2$) (US EPA n.d.[b]).

### 4.3.2.3 Contributions to Greenhouse Gas Emissions

#### *Global*

Worldwide anthropogenic (manmade) GHG emissions are tracked for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Man-made GHG emissions for Annex I and Annex II nations are available through 2012. The sum of these emissions totaled approximately 23,093 million metric tons of $CO_2$ equivalents ($MMTCO_2e$).[3] It should be noted that global emissions inventory data may vary depending on the source of the emissions inventory data.[4] The top five countries and the European Union accounted for approximately 68 percent of the total global GHG emissions based on 2012 data (See **Table 4.3-1, Top Five GHG Producer Countries and the European Union [Annual]**). The GHG emissions in more recent years may differ from the inventories presented in **Table 4.3-1**; however, the data is representative of currently available global inventory data.

**Table 4.3-1**
**Top Five GHG Producer Countries and the European Union (Annual)**

| Emitting Countries | GHG Emissions ($MMTCO_2e$) |
|---|---|
| China | 9,313 |
| United States | 5,123 |
| European Union (EU), 28 Member States | 3,611 |
| India | 1,722 |
| Russian Federation | 2,075 |
| Japan | 1,249 |
| **Total** | **23,093** |

*Source: World Resources Institute, "Climate Analysis Indicators Tool (CAIT)," http://cait.wri.org/. 2012. Excludes emissions and removals from land use, land-use change, and forestry (LULUCF).*

#### *United States*

As noted in **Table 4.3-1**, the United States was the number two producer of global GHG emissions. The primary GHG emitted by human activities in the United States was $CO_2$, representing approximately 82 percent of the total US GHG emissions (US EPA 2013). Carbon dioxide from fossil fuel combustion, the

3 The $CO_2$ equivalent emissions commonly are expressed as "million metric tons of carbon dioxide equivalent ($MMTCO_2E$)." The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP, such that $MMTCO_2E$ = (million metric tons of a GHG) x (GWP of the GHG). For example, the GWP for methane is 21. This means that the emission of one million metric tons of methane is equivalent to the emission of 21 million metric tons of $CO_2$.

4 The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF).

largest source of GHG emissions, accounted for approximately 83 percent of US GHG emissions (US EPA 2013).

## *State of California*

The California Air Resources Board (CARB) compiles GHG inventories for the State of California. Based on the 2013 GHG inventory data (i.e., the latest year for which data are available), California emitted 459.3 $MMTCO_2e$ including emissions resulting from imported electrical power in 2013 (CARB 2015). Based on the CARB inventory data and GHG inventories compiled by the World Resources Institute, California's total Statewide GHG emissions rank second in the United States (Texas is number one) with emissions of 418 $MMTCO_2e$ excluding emissions related to imported power (CARB 2015).

The primary contributors to GHG emissions in California are transportation, industry, electric power production from both in-state and out-of-state sources, agriculture and forestry, and other sources, which include commercial and residential activities. **Table 4.3-2, GHG Emissions in California**, provides a summary of GHG emissions reported in California in 2000 and 2013 separated by categories defined by the United Nations Intergovernmental Panel on Climate Change (IPCC).

**Table 4.3-2**
**GHG Emissions in California**

| Source Category | 2000 ($MMTCO_2e$) | Percent of Total | 2013 ($MMTCO_2e$) | Percent of Total |
|---|---|---|---|---|
| **ENERGY** | **409.2** | **87.2%** | **382.4** | **83.3%** |
| Energy Industries | 159.12 | 33.9% | 140.8 | 30.6% |
| Manufacturing Industries & Construction | 22.71 | 4.8% | 19.93 | 4.3% |
| Transport | 174.92 | 37.3% | 168.2 | 36.6% |
| Other (Residential/Commercial/Institutional) | 44.67 | 9.5% | 45.25 | 9.9% |
| Solid Fuels | 0.08 | 0.01% | 0.02 | 0.004% |
| Oil and Natural Gas | 6.50 | 1.4% | 7.23 | 1.6% |
| Geothermal Energy Production | 1.13 | 0.2% | 0.95 | 0.2% |
| Pollution Control Devices | 0.11 | 0.02% | 0.01 | 0.002% |
| **INDUSTRIAL PROCESSES & PRODUCT USE** | **20.1** | **4.3%** | **31.8** | **6.9%** |
| Mineral Industry | 5.51 | 1.2% | 4.97 | 1.1% |
| Chemical Industry | 0.05 | 0.01% | 0.05 | 0.01% |
| Non-Energy Products from Fuels & Solvent Use | 3.30 | 0.7% | 0.07 | 0.02% |
| Electronics Industry | 0.57 | 0.1% | 0.30 | 0.07% |
| Substitutes for Ozone Depleting Substances | 6.35 | 1.4% | 18.02 | 3.9% |
| Other Product Manufacture and Use | 0.95 | 0.2% | 0.63 | 0.1% |
| Other | 3.31 | 0.7% | 5.50 | 1.2% |
| **AGRICULTURE, FORESTRY, & OTHER LAND USE** | **29.5** | **6.3%** | **33.8** | **7.4%** |
| Livestock | 19.66 | 4.2% | 23.92 | 5.2% |

| Source Category | 2000 ($MMTCO_2e$) | Percent of Total | 2013 ($MMTCO_2e$) | Percent of Total |
|---|---|---|---|---|
| Aggregate Sources & Non-$CO_2$ Sources on Land | 9.87 | 2.1% | 9.85 | 2.1% |
| **WASTE** | **9.9** | **2.1%** | **11.3** | **2.4%** |
| Solid Waste Disposal | 7.21 | 1.5% | 8.32 | 1.8% |
| Biological Treatment of Solid Waste | 0.24 | 0.05% | 0.54 | 0.1% |
| Wastewater Treatment & Discharge | 2.47 | 0.5% | 2.41 | 0.5% |
| **EMISSIONS SUMMARY** | | | | |
| Gross California Emissions | 468.8 | | 459.3 | |

*Source: California Air Resources Board, "California Greenhouse Gas 2000-2013 Inventory by IPCC Category - Summary," http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_ipcc_sum_2000-13_20150831.pdf. 2015*

Between 2000 and 2013, the population of California grew by approximately 4.6 million (from 33.8 to 38.4 million) (US Census). This represents an increase of approximately 13.6 percent from 2000 population levels. In addition, the California economy, measured as gross state product, grew from $1.3 trillion in 2000 to $2.2 trillion in 2013 representing an increase of approximately 69 percent (California Statistical Abstract, 2002, Legislative Analyst's Office, 2014). Despite the population and economic growth, California's net GHG emissions decreased by approximately 2 percent. CARB attributes the decrease in GHG emissions to the success of AB 32 and AB 1803 (CARB 2014).

## 4.3.3 REGULATORY CONSIDERATIONS

### 4.3.3.1 Intergovernmental Panel on Climate Change

The World Meteorological Organization (WMO) and United Nations Environmental Program (UNEP) established the IPCC in 1988. The goal of the IPCC is to evaluate the risk of climate change caused by human activities. Rather than performing research or monitoring climate, the IPCC relies on peer-reviewed and published scientific literature to make its assessment. While not a regulatory body, the IPCC assesses information (i.e., scientific literature) regarding human-induced climate change and the impacts of human-induced climate change, and recommends options to policy makers for the adaptation and mitigation of climate change. The IPCC reports its evaluations in special reports called "assessment reports." The latest assessment report (i.e., Fifth Assessment Report, consisting of three working group reports and a synthesis report based on the first four reports) was published in 2013.[5] In its 2013 report, the IPCC stated that "Each of the last three decades has been successively warmer at the Earth's surface than any preceding decade since 1850. In the Northern Hemisphere, 1938-2012 was *likely* the warmest 30-year period of the last 1,400 years" (IPCC 2013).

5 The IPCC's Fifth Assessment Report is available online at https://www.ipcc.ch/report/ar5/

#### 4.3.3.2 Federal

In *Massachusetts vs. EPA*, the Supreme Court held that United States Environmental Protection Agency (US EPA) has the statutory authority under Section 202 of the Clean Air Act (CAA) to regulate GHGs from new motor vehicles. The court did not hold that the US EPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs from motor vehicles cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. Upon the final decision, the President signed Executive Order 13432 on May 14, 2007, directing the US EPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision.

In December 2007, the President signed the Energy Independence and Security Act of 2007, which sets a mandatory Renewable Fuel Standard (RFS) requiring fuel producers to use at least 36 billion gallons of biofuel in 2022 and sets a national fuel economy standard of 35 miles per gallon by 2020. The act also contains provisions for energy efficiency in lighting and appliances and for the implementation of green building technologies in federal buildings. On July 11, 2008, the US EPA issued an Advanced Notice of Proposed Rulemaking (ANPRM) on regulating GHGs under the CAA. The ANPRM reviews the various CAA provisions that may be applicable to the regulation of GHGs and presents potential regulatory approaches and technologies for reducing GHG emissions. On April 10, 2009, the US EPA published the Proposed Mandatory Greenhouse Gas Reporting Rule in the *Federal Register* (US EPA 2009). The rule was adopted on September 22, 2009 and covers approximately 10,000 facilities nationwide, accounting for 85 percent of US GHG emissions.

On September 15, 2009, the US EPA and the Department of Transportation's (DOT) National Highway Traffic Safety Administration (NHTSA) issued a joint proposal to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. The proposed standards would be phased in and would require passenger cars and light-duty trucks to comply with a declining emissions standard. In 2012, passenger cars and light-duty trucks would have to meet an average standard of 295 grams of $CO_2$ per mile and 30.1 miles per gallon. By 2016, the vehicles would have to meet an average standard of 250 grams of $CO_2$ per mile and 35.5 miles per gallon.[6] These standards were formally adopted by the US EPA and DOT on April 1, 2010.

---

6 The $CO_2$ emission standards and fuel economy standards stated are based on US EPA formulas.

On December 7, 2009, the US EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

While these findings did not impose additional requirements on industry or other entities, this action was a prerequisite to finalizing the US EPA's proposed GHG emissions standards for light-duty vehicles, which were jointly proposed by the US EPA and DOT. On April 1, 2010, the US EPA and NHTSA issued final rules requiring that by the 2016 model-year, manufacturers must achieve a combined average vehicle emission level of 250 grams of $CO_2$ per mile, which is equivalent to 35.5 miles per gallon as measured by US EPA standards. These agencies are currently in the process of developing similar regulations for the 2017 through 2025 model years.

#### 4.3.3.3 State

### *Title 24 Building Standards Code*

The California Energy Commission first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. The latest revisions were adopted in 2013 and became effective on July 1, 2014.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality (California Building Standards Commission 2010). The CALGreen Code is not intended to substitute or

be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). The CBSC has released a *2010 Draft California Green Building Standards Code* on its website (California Building Standards Commission 2010). The update to Part 11 of the Title 24 Building Standards Code became effective on January 1, 2011. Part 11 was updated again in 2013 and the updated CALGreen Code became effective July 1, 2015. Unless otherwise noted in the regulation, all newly constructed buildings in California are subject of the requirements of the CALGreen Code.

### *Assembly Bill 1493*

In response to the transportation sector's contribution of more than half of California's $CO_2$ emissions, Assembly Bill 1493 (AB 1493, Pavley) was enacted on July 22, 2002. AB 1493 requires CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles whose primary use is noncommercial personal transportation. CARB adopted the standards in September 2004. The new standards will be phased in during the 2009 through 2016 model years. When fully phased in, the near term (2009–2012) standards will result in a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the midterm (2013–2016) standards will result in a reduction of about 30 percent.

Before these regulations may go into effect, the US EPA must grant California a waiver under the federal CAA, which ordinarily preempts state regulation of motor vehicle emission standards. On June 30, 2009, the US EPA formally approved California's waiver request. However, in light of the September 15, 2009, announcement by the US EPA and NHTSA regarding the national program to reduce vehicle GHG emissions, California—and states adopting California emissions standards—have agreed to defer to the proposed national standard through model year 2016 if granted a waiver by the US EPA. The 2016 endpoint of the two standards is similar, although the national standard ramps up slightly more slowly than required under the California standard. The Pavley standards require additional reductions in $CO_2$ emissions beyond 2016 (referred to as Phase II standards). While the Phase II standards have yet to be fully developed, CARB has made it clear that the state intends to pursue additional reductions from motor vehicles in the 2017 through 2025 timeframe under the California Global Warming Solutions Act of 2006.

### *Executive Order S-3-05 and the Climate Action Team*

In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: GHG emissions should be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. The

Secretary of Cal/EPA is required to coordinate efforts of various agencies in order to collectively and efficiently reduce GHGs. Some of the agency representatives involved in the GHG reduction plan include the Secretary of the Business, Transportation, and Housing Agency; the Secretary of the Department of Food and Agriculture; the Secretary of the Resources Agency; the Chairperson of CARB; the Chairperson of the CEC; and the President of the Public Utilities Commission.

Representatives from each of the aforementioned agencies comprise the Climate Action Team. The Cal/EPA secretary is required to submit a biannual progress report from the Climate Action Team to the governor and state legislature disclosing the progress made toward GHG emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, coastline, and forests, and reporting possible mitigation and adaptation plans to combat these impacts. Some strategies currently being implemented by state agencies include CARB introducing vehicle climate change standards and diesel anti-idling measures, the CEC implementing building and appliance efficiency standards, and the Cal/EPA implementing their green building initiative. The Climate Action Team also recommends future emission reduction strategies, such as using only low-GWP refrigerants in new vehicles, developing ethanol as an alternative fuel, reforestation, solar power initiatives for homes and businesses, and investor-owned utility energy efficiency programs. According to the report, implementation of current and future emission reduction strategies have the potential to achieve the goals set forth in Executive Order S-3-05.

## *Assembly Bill 32*

In furtherance of the goals established in Executive Order S-3-05, the legislature enacted Assembly Bill 32 (AB 32, Nuñez and Pavley), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance. AB 32 requires the state to undertake several actions. The major requirements are discussed below.

### CARB Early Action Measures

CARB is responsible for carrying out and developing the programs and requirements necessary to achieve the goal of AB 32—the reduction of California's GHG emissions to 1990 levels by 2020. The first action under AB 32 resulted in CARB's adoption of a report listing three specific early-action greenhouse gas emission reduction measures on June 21, 2007. On October 25, 2007, CARB approved six additional early-action GHG reduction measures under AB 32. CARB has adopted regulations for all early action measures. The early-action measures are divided into three categories:

- Group 1 – GHG rules for immediate adoption and implementation

- Group 2 – Several additional GHG measures under development
- Group 3 – Air pollution controls with potential climate co-benefits

The first three early-action regulations, adopted June 21, 2007, meeting the narrow legal definition of "discrete early-action GHG reduction measures" are:

- A low-carbon fuel standard to reduce the "carbon intensity" of California fuels;
- Reduction of refrigerant losses from motor vehicle air conditioning system maintenance to restrict the sale of "do-it-yourself" automotive refrigerants; and
- Increased methane capture from landfills to require broader use of state-of-the-art methane capture technologies.

The six additional early-action regulations, adopted on October 25, 2007, also meeting the narrow legal definition of "discrete early-action GHG reduction measures," are:

- Reduction of aerodynamic drag, and thereby fuel consumption, from existing trucks and trailers through retrofit technology;
- Reduction of auxiliary engine emissions of docked ships by requiring port electrification;
- Reduction of perfluorocarbons from the semiconductor industry;
- Reduction of propellants in consumer products (e.g., aerosols, tire inflators, and dust removal products);
- The requirement that all tune-up, smog check and oil change mechanics ensure proper tire inflation as part of overall service in order to maintain fuel efficiency; and
- Restrictions on the use of sulfur hexafluoride ($sf_6$) from non-electricity sectors if viable alternatives are available.

**State of California Greenhouse Gas Inventory and 2020 Limit**

As required under AB 32, on December 6, 2007, CARB approved the 1990 greenhouse gas emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 $MMTCO_2e$. CARB also projected the state's 2020 GHG emissions under "business as usual" (BAU) conditions—that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels based on population and economic forecasts. The projected net emissions totaled approximately 596 $MMTCO_2e$. Therefore, CARB established that the state must reduce its 2020 BAU emissions by approximately 29 percent in order to meet the 1990 target.

The inventory revealed that in 1990, transportation, with 35 percent of the state's total emissions, was the largest single sector, followed by industrial emissions, 24 percent; imported electricity, 14 percent; in-state electricity generation, 11 percent; residential use, 7 percent; agriculture, 5 percent; and commercial uses, 3 percent (these figures represent the 1990 values, compared to **Table 4.3-2**, which presents 2006 values). AB 32 does not require individual sectors to meet their individual 1990 GHG emissions levels; the total statewide emissions are required to meet the 1990 threshold by 2020.

**CARB Mandatory Reporting Requirements**

In addition to the 1990 emissions inventory, on December 6, 2007 CARB adopted regulations requiring the mandatory reporting of GHG emissions for large facilities. The mandatory reporting regulations require annual reporting from the largest facilities in the state, which account for approximately 94 percent of point source GHG emissions from industrial and commercial stationary sources in California. About 800 separate sources fall under the reporting rules and include electricity-generating facilities, electricity retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 tons of carbon dioxide each year from on-site stationary combustion sources. Transportation sources, which account for 37 percent of California's total GHG emissions, are not covered by these regulations but will continue to be tracked through existing means.

**AB 32 Climate Change Scoping Plan**

As indicated above, AB 32 requires CARB to adopt a scoping plan indicating how reductions in significant GHG sources will be achieved through regulations, market mechanisms, and other actions. After receiving public input on their discussion draft of the scoping plan, the CARB Governing Board approved the *Climate Change Scoping Plan* on December 11, 2008. Key elements of the Scoping Plan include the following recommendations:

- expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- achieving a statewide renewable energy mix of 33 percent;
- developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- establishing targets for transportation-related GHG for regions throughout California and pursuing policies and incentives to achieve those targets;
- adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and

- creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation.

**Table 4.3-3, AB 32 Scoping Plan Measures (SPMs)**, lists CARB's preliminary recommendations for achieving GHG emissions reductions under AB 32 along with a brief description of the requirements and applicability.

**Table 4.3-3**
**AB 32 Scoping Plan Measures (SPMs)**

| Scoping Plan Measure | | Description |
|---|---|---|
| **SPM-1**: | California Cap-and-Trade Program linked to Western Climate Initiative | Implement a broad-based cap-and-trade program that links with other Western Climate Initiative Partner programs to create a regional market system. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms. Capped sectors include transportation, electricity, natural gas, and industry. Projected 2020 business-as-usual emissions are estimated at 512 metric tons of $CO_2$ equivalents ($MTCO_2e$); preliminary 2020 emissions limit under cap-and-trade program are estimated at 365 $MTCO_2e$ (29 percent reduction). |
| **SPM-2:** | California Light-Duty Vehicle GHG Standards | Implement adopted Pavley standards and planned second phase of the program. AB 32 states that if the Pavley standards (AB 1493) do not remain in effect, CARB shall implement equivalent or greater alternative regulations to control mobile sources. |
| **SPM-3**: | Energy Efficiency | Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts. The Scoping Plan considers green building standards as a framework to achieve reductions in other sectors, such as electricity. |
| **SPM-4**: | Renewables Portfolio Standard | Achieve 33 percent Renewables Portfolio Standard by both investor-owned and publicly owned utilities. |
| **SPM-5**: | Low Carbon Fuel Standard | CARB identified the Low Carbon Fuel Standard as a Discrete Early Action item and the final regulation was adopted on April 23, 2009. In January 2007, Governor Schwarzenegger issued Executive Order S-1-07, which called for the reduction of the carbon intensity of California's transportation fuels by at least 10 percent by 2020. |
| **SPM-6**: | Regional Transportation-Related Greenhouse Gas Targets | Develop regional greenhouse gas emissions reduction targets for passenger vehicles. SB 375 requires CARB to develop, in consultation with metropolitan planning organizations (MPOs), passenger vehicle greenhouse gas emissions reduction targets for 2020 and 2035 by September 30, 2010. SB 375 requires MPOs to prepare a sustainable communities strategy to reach the regional target provided by CARB. |
| **SPM-7**: | Vehicle Efficiency Measures | Implement light-duty vehicle efficiency measures. CARB is pursuing fuel-efficient tire standards and measures to ensure properly inflated tires during vehicle servicing. |
| **SPM-8**: | Goods Movement | Implement adopted regulations for port drayage trucks and the use of shore power for ships at berth. Improve efficiency in goods movement operations. |
| **SPM-9**: | Million Solar Roofs Program | Install 3,000 MW of solar-electric capacity under California's existing solar programs. |
| **SPM-10**: | Heavy/Medium-Duty Vehicles | Adopt heavy- and medium-duty vehicle and engine measures targeting aerodynamic efficiency, vehicle hybridization, and engine efficiency. |

| Scoping Plan Measure | Description |
|---|---|
| **SPM-11**: Industrial Emissions | Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries. |
| **SPM-12**: High Speed Rail | Support implementation of a high-speed rail (HSR) system. This measure supports implementation of plans to construct and operate a HSR system between Northern and Southern California serving major metropolitan centers. |
| **SPM-13**: Green Building Strategy | Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. |
| **SPM-14**: High GWP Gases | Adopt measures to reduce high global warming potential gases. The Scoping Plan contains 6 measures to reduce high-GWP gases from mobile sources, consumer products, stationary sources, and semiconductor manufacturing. |
| **SPM-15**: Recycling and Waste | Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste. |
| **SPM-16**: Sustainable Forests | Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation. The federal government and California's Board of Forestry and Fire Protection have the regulatory authority to implement the Forest Practice Act to provide for sustainable management practices. This measure is expected to play a greater role in the 2050 goals. |
| **SPM-17**: Water | Continue efficiency programs and use cleaner energy sources to move water. California will also establish a public goods charge for funding investments in water efficiency that will lead to as yet undetermined reductions in greenhouse gases. |
| **SPM-18**: Agriculture | In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020. Increase efficiency and encourage use of agricultural biomass for sustainable energy production. CARB has begun research on nitrogen fertilizers and will explore opportunities for emission reductions. |

*Source: California Air Resources Board, Climate Change Scoping Plan, 2008*

In October 2010, CARB identified ongoing programs and adopted regulations for 29 individual measures to reduce GHG emissions in accordance with the *Climate Change Scoping Plan* strategies. The *Climate Change Scoping Plan* was re-approved by CARB in August 2011. Subsequently, the *First Update to the Climate Change Scoping Plan* was approved in May 2014.

In September 2012, CARB adopted a California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms, which established the cap-and-trade program to manage greenhouse gas emissions, for California. The cap-and-trade program is a key element that will enable California to achieve the GHG emission goals of AB 32. The cap-and-trade program is a market-based approach wherein the government determines an overall emission target or "cap" for a particular set of facilities. The cap is the total amount of emissions that all of the facilities can produce. Tradable emissions allowances totaling the overall emissions cap, are distributed, either by auction or given out, amongst the particular set of facilities. The emissions allowances can be traded amongst the facilities.

The Renewables Portfolio Standard (RPS) Program was established in 2002 under Senate Bill (SB) 1078 which required 20 percent of the electricity used by California to come from renewable energy sources by 2017. This was accelerated by SB 107 in 2006 which required 20 percent of electricity retail sales to come from renewable energy sources by 2010 and then by Executive Order S-14-08 in 2008 which required 33 percent of electricity sold by retail sellers to be produced by renewable energy in 2020. In April 2011, SB X1-2 required that all electricity retailers adopt the new RPS goals providing 20 percent renewable sources by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020.

As previously mentioned, CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions. The First Update defines CARB's climate change priorities for the next five years and develops an integrated framework for achieving both air quality and climate goals in California beyond 2020. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

### *Senate Bill 97 (State CEQA Guidelines)*

In August 2007, the legislature enacted SB 97 (Dutton), which directed the Governor's Office of Planning and Research (OPR) to develop guidelines under the California Environmental Quality Act (CEQA) for the mitigation of GHG emissions.

On June 19, 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents (OPR 2008). The advisory indicated that a project's GHG emissions, including those associated with vehicular traffic and construction activities should be identified and estimated. The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures that are necessary to reduce GHG emissions to a less than significant level. The advisory did not recommend a specific threshold of significance. Instead, OPR requested that CARB recommend a method for setting thresholds that lead agencies may adopt (OPR 2009).

To formulate CEQA Guideline Amendments for GHG emissions, OPR submitted the *Proposed Draft CEQA Guideline Amendments for Greenhouse Gas Emissions* to the Secretary for Natural Resources on April 13, 2009. The Natural Resources Agency conducted formal rulemaking procedures in 2009 and adopted the CEQA Guideline Amendments on December 30, 2009. They became effective in March 2010.

### *Senate Bill 375*

The California legislature passed SB 375 (Steinberg) on September 1, 2008. SB 375 requires CARB to set regional GHG reduction targets after consultation with local governments. The target must then be incorporated within that region's regional transportation plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). SB 375 also requires each region's regional housing needs assessment (RHNA) to be adjusted based on the Sustainable Communities Strategy in its RTP. Additionally, SB 375 reforms the environmental review process to create incentives to implement the strategy, especially transit priority projects. The governor signed SB 375 into law on September 30, 2008.

On January 23, 2009, CARB appointed a Regional Targets Advisory Committee (RTAC) to provide recommendations and methodologies to be used in the target setting process. The RTAC provided its recommendations in a report to CARB on September 29, 2009. On August 9, 2010, CARB staff issued the *Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375* (CARB 2010). CARB staff proposed draft reduction targets for the four largest MPOs (Bay Area, Sacramento, Southern California, and San Diego) of 7 to 8 percent for 2020 and reduction targets between 13 to 16 percent for 2035. For the Bay Area, CARB established a draft target of 7 percent for 2020 and 15 percent for 2035. These targets were recommended to CARB by the Metropolitan Transportation Commission, which adopted the thresholds for its planning purposes on July 28, 2010. Of note, the proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and low carbon fuel standard regulations. CARB adopted the final targets on September 23, 2010.

## 4.3.3.4 Regional Programs

### *Bay Area Air Quality Management District*

On June 2, 2010, the Bay Area Air Quality Management District (BAAQMD) adopted updated *CEQA Air Quality Guidelines*. These guidelines contain GHG operational emissions significance thresholds and recommended methodologies and models to be used for assessing the impacts of project-specific GHG emissions on global climate change. The updated *CEQA Air Quality Guidelines* recommend that thresholds of significance for GHG emissions should be related to AB 32's GHG reduction goals or the state's strategy to achieve the 2020 GHG emissions limit, and also provide recommended measures for reducing GHG emissions from land use development projects and stationary sources.

The significance thresholds under BAAQMD's *CEQA Air Quality Guidelines* were challenged by the California Building Industry Association. The Alameda County Superior Court ruled that BAAQMD must set aside the approval of the guidelines and not approve any new guidelines until the BAAQMD

complies with CEQA. This ruling was subsequently overturned on appeal, but this ruling was in turn appealed, and the California Supreme Court has agreed to rule on select portions of the case. While the case continues through the courts, the BAAQMD is not recommending the use of any particular significance thresholds to determine the significance of air quality impacts. Instead, the BAAQMD recommends that the lead agency should "determine appropriate air quality thresholds of significance based on substantial evidence in the record." The Court did not rule on or question the adequacy of the evidentiary basis supporting the significance thresholds that are contained in the *CEQA Air Quality Guidelines* and the BAAQMD-recommended impact assessment methodologies. Therefore, a lead agency has the discretion to use the significance thresholds and methodology for analyzing air quality impacts, including GHG impacts, under CEQA based on the evidence and technical studies supporting the guidelines.

**Bay Area Air Quality Management District - GHG Thresholds of Significance**

BAAQMD's *CEQA Air Quality Guidelines* contain three thresholds of significance that may be used to evaluate the significance of the operational GHG emissions of a land development project (including mixed-use residential projects such as the proposed project). These thresholds of significance can be used by a lead agency to determine whether the project exceeds the first GHG significance criteria from Appendix G of the *State CEQA Guidelines*, i.e., whether the project generates GHG emissions, "either directly or indirectly, that may have a significant impact on the environment." BAAQMD's GHG thresholds include a bright-line threshold of 1,100 metric tons of $CO_2e$ per year ($MTCO_2e$/yr). Projects that have operational emissions below 1,100 metric tons of $CO_2e$ per year are considered to have less than significant GHG emissions. For projects that result in operational emissions that exceed the bright-line threshold, the BAAQMD has put forth a GHG efficiency threshold of 4.6 metric tons $CO_2e$/service person/year (where service persons are residents and employees). Projects that have operational emissions below 4.6 metric tons of $CO_2e$/service person/year are considered to have less than significant GHG emissions. A project's GHG impact may also be evaluated in terms of the project's compliance with a qualified GHG Reduction Strategy (BAAQMD 2010, p. 2-4; Table 2.1). The City has consistently utilized the methodologies and thresholds in the *CEQA Air Quality Guidelines* in its environmental documents.

**Qualified GHG Reduction Strategy**

Section 4.3 of BAAQMD's *CEQA Air Quality Guidelines* lays out the standards for a qualified GHG Reduction Strategy that is consistent with AB 32 goals and is therefore valid for use as a threshold of significance. These required elements (which correspond to the Plan Elements listed in the *State CEQA Guidelines* Section 15183.5) are as follows. A qualified GHG Reduction Strategy must:

- 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;
- Monitor the plan's progress; and
- Adopt the GHG Reduction Strategy in a public process following environmental review (BAAQMD 2011).

If a project is located in a community with an adopted qualified GHG Reduction Strategy, the impact of a project's GHG emissions may be considered less than significant if the project is consistent with the GHG Reduction Strategy. However, a project must demonstrate its consistency by identifying and implementing all applicable feasible measures and policies from the GHG Reduction Strategy into the project (BAAQMD 2011). This approach is consistent with Section 15183.5 of the *State CEQA Guidelines*, which provides for tiering of GHG emissions analysis from a programmatic-level planning document, such as a qualified GHG Reduction Strategy, to project-specific CEQA analysis.

### *Association of Bay Area Governments and Metropolitan Transportation Commission*

In July 2013, the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) adopted Plan Bay Area (Plan), which includes the region's Sustainable Communities Strategy (SCS) and the 2040 Regional Transportation Plan (RTP). This is the nine-county region's first long-range plan to meet the requirements of Senate Bill 375 (2008), which calls on each of the state's 18 metropolitan areas to develop a SCS to accommodate future population growth and reduce greenhouse gas emissions from cars and light trucks. A number of lawsuits were filed challenging the Final EIR prepared for the Plan. However, until the court provides a decision with respect to the lawsuits, the Plan remains in effect.

### 4.3.3.5 Local Plans and Policies

#### *City of Santa Clara Climate Action Plan*

On December 3, 2013, the City of Santa Clara adopted the Santa Clara Climate Action Plan (CAP). Santa Clara prepared this CAP in an effort to prepare a BAAQMD-qualified GHG Reduction Strategy, and which can act as a threshold of significance under CEQA for determining whether a project's operational GHG emissions would result in a significant impact.

The CAP establishes goals and emissions reduction measures that the City will implement to achieve the state-recommended GHG emissions reduction target of 15 percent below 2008 emissions by the year 2020. The primary goals include changing the Silicon Valley Power (SVP) power mix, promoting energy efficiency, conservation of water, and reduction of waste with the overall effect to reduce emissions from the City of Santa Clara. The Santa Clara CAP identifies the sources of GHG emissions caused by actions within the City and estimates how these emissions may change over time. The CAP also provides strategies to reduce the GHG emission levels to meet legislative requirements outlined in AB 32 and SB 375. Additionally, the CAP builds on existing efforts of City departments, businesses, and community groups to reduce GHG emissions and will identify future efforts needed to achieve the state goals. Finally, the CAP provides performance metrics and tracking mechanisms to monitor future progress towards meeting the City's GHG goals.

The following steps were taken in preparation of the Santa Clara CAP. The CAP:

- Prepared the communitywide and municipal operations emissions inventory for the baseline year 2008;
- Established the GHG reduction target;
- Solicited input from the community, business stakeholders, and decision makers;
- Reviewed current City programs and quantified the greenhouse gas reductions resulting from the implementation of these programs;
- In coordination with City staff from different City departments, prepared a list of potential GHG reduction measures in five major areas: transportation, energy, off-road construction equipment, waste disposal, and water and wastewater;

- Categorized the potential reduction measures by implementation feasibility, by time frame (Near (by 2015), mid (by 2020), or long-term (by 2035)), barriers to implementation, and resources needed for implementation;
- Reviewed the draft GHG reduction measures with BAAQMD staff; and
- Developed and quantified draft GHG reduction measures.

After receiving both written and verbal testimony at the public hearings before both the Planning Commission and the City Council, the City Council adopted a Negative Declaration pursuant to CEQA, adopted the CAP, and approved an amendment to the General Plan to include the CAP as part of Appendix 8.13.

Though the BAAQMD does not issue official certification that a CAP is a qualified GHG Reduction Strategy that can be utilized as a GHG Threshold of Significance, the BAAQMD issued a comment letter on November 20, 2013, voicing BAAQMD's strong endorsement and approval of the Santa Clara CAP (BAAQMD 2013). The BAAQMD letter states that the BAAQMD "believe[s] that the City's Climate Action Plan will likely achieve its GHG reduction target and that the City will be in a good position to use the CAP as a tierable document under CEQA" (BAAQMD 2013).

The Santa Clara CAP is a qualified GHG Reduction Strategy because it meets each of the requirements enumerated in the BAAQMD guidelines, as described in **Table 4.3-4**, **Santa Clara Climate Action Plan Compliance with BAAQMD Requirements for Qualified GHG Reduction Strategy**, below.

Because the Santa Clara CAP meets the BAAQMD requirements for a qualified GHG Reduction Strategy, and has been endorsed as a tierable document by BAAQMD, the Santa Clara CAP is a qualified GHG Reduction Strategy. Thus, a project that demonstrates its consistency with the Santa Clara CAP by identifying and implementing all applicable feasible measures and policies from the GHG Reduction Strategy into the project will result in a less than significant impact related to operational GHG emissions.

**Table 4.3-4**
**Santa Clara Climate Action Plan Compliance with BAAQMD Requirements for Qualified GHG Reduction Strategy**

| BAAQMD Requirement | Compliance with Requirement? |
|---|---|
| Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area | **Yes.** The City prepared the communitywide and municipal operations emissions inventory for the baseline year 2008, and analyzed anticipated 2020 emissions according to a business as usual calculation, for all of the activities within the Santa Clara CAP 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 | **Yes.** The CAP established a GHG reduction target of 15 percent below 2008 emission levels by 2020, which would results in GHG emissions from activities covered by the plan not being cumulatively considerable. The goals and measures included in the plan are designed to make sure that Santa Clara meets, and even exceeds, this goal (Santa Clara anticipates that it will reduce its GHG emissions to 23.4 percent below 2008 emissions levels by 2020). |
| Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area | **Yes.** The CAP reviewed and quantified emissions by sector, including nonresidential energy, transportation, residential energy, off-road equipment, waste, water and wastewater energy, and direct wastewater. The CAP also reviewed current City programs and quantified the GHG reductions resulting from the implementation of these programs. |
| 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 | **Yes.** In coordination with City staff from different City departments, the City prepared a list of GHG reduction measures in five major areas: transportation, energy, off-road construction equipment, waste disposal, and water and wastewater. The City then categorized the reduction measures by implementation feasibility, by time frame (Near (by 2015), mid (by 2020), or long-term (by 2035)), barriers to implementation, and resources needed for implementation. The City anticipates that it will surpass its goal and will achieve a 23.4 percent reduction in GHG emissions by 2020. |
| Monitor the plan's progress | **Yes.** The CAP provides performance metrics and tracking mechanisms to monitor future progress towards meeting the City's GHG goals. |
| Adopt the GHG Reduction Strategy in a public process following environmental review | **Yes.** The City adopted the CAP on 12/3/13 following a public hearing and prepared a Negative Declaration for the CAP. |

## *City of Santa Clara General Plan*

The City of Santa Clara's General Plan contains goals and policies relating to GHG reduction and are listed below for ease of reference.

### Prerequisite Policies

**Policy 5.1.1-P10** Prior to 2015, adopt a Climate Action Plan to implement the City's sustainability and environmental quality Goals and Policies, including any necessary health impact assessment.

**Policy 5.1.1-P11** Prior to 2010, update the City's Urban Water Management Plan and encourage a 20 percent reduction in consumption.

**Policy 5.1.1-P15** Prior to 2015, work with Valley Transportation Authority and other responsible agencies to develop a Regional Transportation Plan to address the Sustainable Community Strategy goals of AB 32 (2006) and SB 375 (2008).

**General Land Use Policies**

**Policy 5.3.1-P10** Provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off –site replacement for trees removed as part of the proposal.

**Policy 5.3.1-P11** Encourage new developments proposed within a reasonable distance of an existing or proposed recycled water distribution system to utilize recycled water for landscape irrigation, industrial processes, cooling and other appropriate uses.

**Policy 5.3.1-P12** Encourage convenient pedestrian connections within new and existing developments.

**Policy 5.3.1-P14** Encourage Transportation Demand Management strategies and the provision of bicycle and pedestrian amenities in all new development in order to decrease use of the single-occupant automobile and reduce vehicle miles traveled.

**Commercial Land Use Policies**

**Policy 5.3.3-P6** Encourage neighborhood retail uses within a 10-minute walk of residential uses throughout the City.

**Policy 5.3.3-P10** Encourage new grocery stores near residential neighborhoods to provide Santa Clara residents with access to fresh and healthy food options.

**General Mobility and Transportation Policies**

**Policy 5.8.1-P1** Create accessible transportation networks system to meet the needs of all segments of the population, including youth, seniors, persons with disabilities and low-income households.

**Policy 5.8.1-P4** Expand transportation options and improve alternate modes that reduce greenhouse gas emissions.

**Policy 5.8.1-P5** Work with local, regional, state and private agencies, as well as employers and residents, to encourage programs and services that reduce vehicle miles traveled.

**Policy 5.8.1-P6** Implement Level of Service standards that support in-creased transit ridership, biking and walking, in order to decrease vehicle miles traveled and reduce air pollution, energy consumption and greenhouse gas emissions.

**Policy 5.8.1-P7** Explore options to apply traffic fees toward bicycle, pedestrian, transit and roadway improvements in order to implement a circulation system that optimizes travel by all modes.

**Roadway Network and Policies**

**Policy 5.8.2-P5** Support "traffic calming" and other neighborhood traffic management techniques to enhance the quality of life within existing neighborhoods and to discourage through-traffic on local streets.

**Policy 5.8.2-P8** Minimize disruption of traffic flow resulting from truck traffic and deliveries, particularly during commute hours.

**Transit Network Policies**

**Policy 5.8.3-P8** Require new development to include transit stop amenities, such as pedestrian pathways to stops, benches, traveler information and shelters.

**Policy 5.8.3-P9** Require new development to incorporate reduced on-site parking and provide enhanced amenities, such as pedestrian links, benches and lighting, in order to encourage transit use and increase access to transit services.

**Bicycle and Pedestrian Network Policies**

**Policy 5.8.4-P6** Require new development to connect individual sites with existing and planned bicycle and pedestrian facilities, as well as with on-site and neighborhood amenities/services, to promote alternate modes of transportation.

**Policy 5.8.4-P7** Require new development to provide sidewalks, street trees and lighting on both sides of all streets in accordance with City standards, including new developments in employment areas.

**Policy 5.8.4-P8** Require new development and public facilities to provide improvements, such as sidewalks, landscaping and facilities, to promote pedestrian and bicycle use.

**Policy 5.8.4-P9** Encourage pedestrian and bicycle-oriented amenities, such as bike racks, benches, signalized, mid-block crosswalks, and bus benches or enclosures.

**Transportation Demand Management Policies**

**Policy 5.8.5-P1** Require new development to include transportation demand management site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage and recreational facilities.

**Policy 5.8.5-P2** Require development to offer on-site services, such as ATMs, dry cleaning, exercise rooms, cafeterias and concierge services, to reduce daytime trips.

**Policy 5.8.5-P3** Encourage all new development to provide on-site bicycle facilities and pedestrian circulation.

**Policy 5.8.5-P4** Encourage new development to participate in shuttle programs to access local transit services within the City, including buses, light rail, Bay Area Rapid Transit, Caltrain, Altamont Commuter Express Yellow Shuttle and Lawrence Caltrain Bowers/Walsh Shuttle services.

**Policy 5.8.5-P5** Encourage transportation demand management programs that provide incentives for the use of alternative travel modes to reduce the use of single occupant vehicles.

**Policy 5.8.5-P6** Encourage transportation demand management programs that include shared bicycle and autos for part-time use by employees and residents to reduce the need for personal vehicles.

**Policy 5.8.5-P7** Promote programs that reduce peak hour trips, such as flexible work hours, telecommuting, home based businesses and off-site business centers, and encourage businesses to provide alternate, off -peak hours for operations.

**Policy 5.8.5-P8** Encourage local events that connect employees and residents with local transit providers and ride sharing options.

**Policy 5.8.5-P9** Promote transportation demand management programs that provide education, information and coordination to connect residents and employees with alternate transportation opportunities.

**Conservation Policies**

**Policy 5.10.1-P3** Require preservation of all City-designated heritage trees listed in the Heritage Tree Appendix 8.10 of the General Plan.

**Policy 5.10.1-P4** Protect all healthy cedars, redwoods, oaks, olives, bay laurel and pepper trees of any size, and all other trees over 36 inches in circumference, measured from 48 inches above-grade on private and public property as well as in the public right-of-way.

**Policy 5.10.1-P9** Encourage curbside recycling and composting of organic and yard waste.

**Policy 5.10.1-P10** Promote the reduction, recycling and safe disposal of household hazardous wastes through public education and awareness and through an increase in hazardous waste collection events.

**Policy 510.1-P11** Require use of native plants and wildlife-compatible non-native plants, when feasible, for landscaping on City property.

**Policy 5.10.1-P12** Encourage property owners and landscapers to use native plants and wildlife-compatible non-native plants, when feasible.

**Air Quality Policies**

**Policy 5.10.2-P1** Support alternative transportation modes and efficient parking mechanisms to improve air quality.

**Policy 5.10.2-P2** Encourage development patterns that reduce vehicle miles traveled and air pollution.

**Policy 5.10.2-P3** Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.

**Policy 5.10.2-P4** Encourage measures to reduce greenhouse gas emissions to reach 30 percent below 1990 levels by 2020.

**Policy 5.10.2-P5** Promote regional air pollution prevention plans for local industry and businesses.

**Policy 5.10.2-P6** Require "Best Management Practices" for construction dust abatement.

**Energy Policies**

**Policy 5.10.3-P2** Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.

**Policy 5.10.3-P3** Reduce energy consumption through sustainable construction practices, materials and recycling.

**Policy 5.10.3-P4** Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.

**Water Policies**

**Policy 5.10.4-P1** Promote water conservation through development standards, building requirements, landscape design guidelines, education, compliance with the State Water Conservation Ordinance, and other applicable Citywide policies and programs.

**Policy 5.10.4-P7** Require installation of native and low-water-consumption plant species when landscaping new development and public spaces to reduce water usage.

## 4.3.4 IMPACTS AND MITIGATION MEASURES

### 4.3.4.1 Significance Criteria

The impacts related to GHG emissions resulting from the implementation of the proposed project would be considered significant if they would exceed the following significance criteria, in accordance with Appendix G of the *State CEQA Guidelines*:

- generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

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

As noted by the BAAQMD in its guidelines, "GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change." "No single land use project could generate enough GHG emissions to noticeably change the global average temperature" (BAAQMD 2011).

The *State CEQA Guidelines* include Section 15064.4, which states that, when making a determination with respect to the significance of a project's GHG emissions, a lead agency shall have discretion to determine whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use; and/or (2) Rely on a qualitative analysis or performance-based standards.

Section 15064.4 also states that a lead agency should consider the following factors when assessing the significance of the impact of GHG emissions on the environment: (1) The extent to which the project may increase or reduce greenhouse gas 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.

A project's impact relative to the first Appendix G criterion may be evaluated by performing a direct calculation of the GHG emissions resulting from the proposed project and comparing the emissions with the BAAQMD CEQA thresholds of significance for GHG emissions. The BAAQMD thresholds were developed specifically for the Bay Area after considering the latest Bay Area GHG inventory and the effects of AB 32 scoping plan measures that would reduce regional emissions. The BAAQMD intends to achieve GHG reductions from new land use developments to close the gap between projected regional emissions and the AB 32 targets.

BAAQMD's GHG thresholds include a bright-line threshold of 1,100 metric tons of $CO_2e$ per year ($MTCO_2e/yr$). Projects that have operational emissions below 1,100 metric tons of $CO_2e$ per year are considered to have less than significant GHG emissions. For projects that result in operational emissions that exceed the bright-line threshold, the BAAQMD has put forth a GHG efficiency threshold of 4.6 metric tons $CO_2e$/service person/year (where service persons are residents and employees). Projects that have operational emissions below 4.6 metric tons of $CO_2e$/service person/year are considered to have less than significant GHG emissions. The guidelines also include another threshold, which provides for the evaluation of a project's impact based on the project's compliance with a qualified GHG reduction strategy.

There are no thresholds put forth by the BAAQMD for evaluating the significance of a project's construction-phase GHG emissions, though the BAAQMD recommends that emissions be quantified, reported, and evaluated.

A project's impact relative to the second Appendix G criterion may be evaluated by demonstrating compliance with plans, policies, or regulations adopted by local governments to curb GHG emissions. According to the Natural Resources Agency:

> *Provided that such plans contain specific requirements with respect to resources that are within the agency's jurisdiction to avoid or substantially lessen the agency's contributions to GHG emissions, both from its own projects and from private projects it has approved or will approve, such plans may be appropriately relied on in a cumulative impacts analysis (Natural Resources Agency 2009).*

As noted above, the City of Santa Clara adopted its CAP on December 3rd 2013, which establishes goals and emissions reduction measures that the City will implement to achieve the state-recommended GHG emissions reduction target of 15 percent below 2008 levels by the year 2020. In addition, the final version of the MTC/ABAG "Plan Bay Area," which includes the Bay Area's Sustainable Communities Strategy (SCS) and the 2040 Regional Transportation Plan, was adopted in July 2013. Both the SCS and the City's CAP are applicable plans adopted by local governments to reduce GHG emissions and comply with AB 32.

Given the above, the significance of the proposed project's impacts with respect to the GHG emissions and global climate change will be assessed based on the BAAQMD's GHG thresholds of significance as well as compliance with the SCS and the City's CAP.

### 4.3.4.2 Methodology

GHG emissions were computed for the full build out scenario of the proposed project. Specifically, construction emissions were computed for an assumed 2.5-year construction period (July 2016 through December 2018) and operational emissions were estimated for 2019, the first complete year of full project occupancy. The California Emissions Estimator Model Version 2013.2.2 (CalEEMod) was used to estimate GHG emissions. Modeling output that includes assumptions is provided in **Appendix 4.1**.

### 4.3.4.3 Project Impacts and Mitigation Measures

**Impact GHG-1:** **The proposed project would generate greenhouse gas emissions, either directly or indirectly, that would not have a significant impact on the environment. (*Less than Significant*)**

## *Construction GHG Emissions*

During construction, the proposed project would directly contribute to climate change through its contribution of GHGs from the exhaust of construction equipment and construction workers' vehicles. The manufacture of construction materials used by the proposed project would indirectly contribute to climate change (upstream emission source). Upstream emissions are emissions that are generated during the manufacture of products used for construction (e.g., cement, steel, and transport of materials to the region). The upstream GHG emissions for this project, which may also include perfluorocarbons and sulfur hexafluoride, are not estimated in this impact analysis because they are not within the control of the City or the applicant and the lack of data precludes their quantification without speculation.

The BAAQMD recommends that GHG emissions from the construction of a proposed project be estimated, reported and evaluated, but does not provide any guidance on what level of construction-phase GHG emissions would be considered substantial enough to result in a significant impact. $CO_2$ emissions associated with project construction were assumed to occur from July 2016 through December 2018. The construction of the proposed project would emit a total of 1,315 $MTCO_2e$ over the duration of project construction or an average of approximately 526 $MTCO_2e$/yr. These emissions would be short-term, occurring only during construction and therefore would have a very limited impact on overall state emission rates. Neither the City nor the BAAQMD have put forth quantitative thresholds for evaluation of the significance of a project's construction emissions. These emissions are also less than baseline emissions (see below) and half of the BAAQMD's bright-line operational threshold of 1,100 $MTCO_2e$/yr. Furthermore, as required by the City's municipal code, the proposed project would be required to recycle or reuse at least 50 percent of construction waste or demolition materials and at least 10 percent of the building materials used would need to be local building materials. For all of the reasons provided above, the impact of the proposed project's construction-phase GHG emissions would be less than significant. Additionally, the proposed project will be required to implement **Mitigation Measure AIR-1,** which would reduce construction equipment exhaust emissions, including GHG emissions. For all of the reasons provided above, the impact of the proposed project's construction-phase GHG emissions would be less than significant.

## *Operational GHG Emissions*

The CalEEMod model was used to estimate operational GHG emissions associated with the proposed project. CalEEMod provides emissions for transportation, areas sources, electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid waste transport and disposal. Unless otherwise noted below, the CalEEMod model defaults for the Santa Clara County were used to estimate operational GHG emissions associated with the proposed project.

**Model Year**

The model uses mobile emission factors from the California Air Resources Board's EMFAC2011 model, which includes the effect of new regulations to reduce GHG emissions. These regulations include the Pavley Rule that increases fleet efficiency (reducing fuel consumption) and the low carbon fuel standard. This model is sensitive to the year selected, since vehicle emissions have and continue to be reduced due to fuel efficiency standards and low carbon fuels. The Year 2019 was used in the analysis since it is the first full year that the proposed project would be fully occupied.

**Traffic**

The project traffic study predicted 2,440 daily trips would be generated by the proposed project and this data was input to the CalEEMod model.

**Transportation Demand Management and Bicycle/Pedestrian Enhancements**

Although bicycle and pedestrian enhancements are included in the project, no TDM strategies are proposed as part of the project. Trip/emission reductions due to bicycle and pedestrian enhancements were not included in the CalEEMod emissions modeling.

**Area Sources (including Natural Gas and Electricity Consumption)**

The proposed project is required by law to meet 2013 Title 24 standards, which went into effect July 1, 2015. The energy efficiency of the proposed project is assumed to be 25 percent greater than assumed in the CalEEMod model defaults as the defaults are based on energy usage factors for various land use types prior to 2008. [7] Therefore, the CalEEMod runs were adjusted to account for the reduction in energy

[7] Buildings constructed to the 2013 Title 24 standards will use 25 percent less energy than building constructed to the 2008 Title 24 standards. The 2013 Standards will result in 25 percent less energy use for lighting, heating, cooling, ventilation, and water heating than the 2008 Standards. Additionally, the Standards will avoid 170,500 tons of greenhouse gas emissions per year (California Energy Commission 2012).

consumption. No other energy efficient features of the project were taken into account in the CalEEMod runs. Emissions rates associated with electricity consumption were adjusted to account for Silicon Valley Power's CO2 intensity rate of 680 pounds of CO2 per megawatt of electricity produced, as reported in the City's CAP.

**Sequestration**

Vegetation acts to remove $CO_2$ from the atmosphere. The removal or change in vegetation could result in a change in $CO_2$ emissions from sequestration. The proposed project would remove about 26 mature trees. However, these trees would be replaced with about 256 new trees and landscaping. CalEEMod default sequestration rate for trees ranges from about 0.02 to 0.04 metric tons of $CO_2$ per tree. The net result caused by the proposed project is likely to be a small increase in sequestration that would reduce the $CO_2$ emissions caused by the project. This effect was not included in the analysis.

**Baseline Emissions**

The proposed project would replace about 9,426 gross square feet (gsf) of existing residential building space and about 101,207 gsf of commercial and light industrial building space. CalEEMod was used to estimate GHG emissions that would result in 2019 if this building space were to remain and continue to be occupied by residential and office uses (2019 baseline emissions). The purpose for modeling these emissions was to predict the net increase in GHG emissions that would be associated with the proposed project. The trip rates for these baseline land uses were obtained from the project Traffic Impact Assessment and were input into the CalEEMod model.

**Per Capita Rate**

The per capita rate is the total annual GHG emissions expressed in metric tons divided by the service population (i.e., number of residents and employees). A future service population of 2.69 persons per household and one (1) employee per 400 square feet of retail space was assumed. The average household size of 2.69 persons for the City of Santa Clara was obtained from the Department of Finance. The proposed project is a mixed-use residential development that would include 385 rental apartment units, a central parking garage as part of the residential complex, 4,000 gsf of leasing space, and approximately 27,000 gsf of retail space. Based on these rates, the service population associated with the proposed project would be 78 workers and 1,036 new residents and is determined by the following calculations:

- 385 apartment units * 2.69 = 1,036 residents
- 31,000 leasable square feet of retail and leasing space* 1 worker/400 square feet = 78 workers

**Computed Operational GHG Emissions**

As shown in **Table 4.3-5, Project Operational GHG Emissions**, below, the proposed project would result approximately 3,180 $MTCO_2e$/yr of GHG emissions. If 2019 baseline emissions generated by the continued residential, general office, and commercial uses on the site are subtracted, the net increase in emissions from the project site would be approximately 2,328 $MTCO_2e$/yr. Both estimates exceed the bright-line threshold of 1,100 $MTCO_2e$/yr. Therefore, the per capita emissions for the proposed project were calculated. Per capita operational emissions from the proposed uses alone were estimated to be 2.9 $MTCO_2e$/yr (calculated by dividing annual emissions of 3,180 $MTCO_2e$ by a service population of 1,114 persons), whereas the per capita net increase was estimated to be 2.1 $MTCO_2e$/yr (calculated by dividing annual emissions of 2,328 $MTCO_2e$ by a service population of 1,114 persons), both of which are well below the per capita threshold of 4.6 $MTCO_2e$/yr. As a result, the impact from the proposed project's operational GHG emissions would be considered less than significant.

**Mitigation Measures:** No mitigation measures are required.

**Table 4.3-5**
**Project Operational GHG Emissions**

| Scenario | Emissions (Metric Tons $CO_2e$/year) |
|---|---|
| **Proposed Project** | |
| Area sources | 18 |
| Energy use | 1,189 |
| Mobile sources | 1,807 |
| Solid waste | 111 |
| Water | 55 |
| *Total Emissions* | *3,180* |
| **Baseline** | |
| *Total Emissions* | *852* |
| **Net Increase in Annual Emissions (i.e., Proposed Project –Baseline)** | **2,328** |
| *Significance Threshold* | 1,100 |
| Exceed? | Yes |
| **Proposed Project Per Capita Emissions** | **2.9** |
| **Net increase in Per Capita Emissions** | **2.1** |
| *Significance Threshold* | 4.6 |
| **Exceed?** | No |

*Source: Illingworth & Rodkin, Inc., 2015*
*Emissions calculations are provided in **Appendix 4.1**.*

**Impact GHG-2:** **Operation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. (*Less than Significant*)**

Implementation of the proposed project would result in a significant impact related to GHG emissions if the project were in conflict with an applicable plan, policy, or regulation concerning greenhouse gas reductions. As noted above, the SCS and the City's CAP are the applicable plans adopted for the purpose of reducing GHG emissions. In addition, AB 32 provides the relevant legal framework under which to review compliance. The proposed project's consistency with the plans and regulations is evaluated below.

### *Santa Clara Climate Action Plan Consistency Analysis*

**Table 4.3-6, Proposed Project Consistency with Santa Clara Climate Action Plan**, below summarizes the Santa Clara CAP's emission reduction strategies, goals, and measures, and the proposed project's consistency with these strategies, goals, and measures. The proposed measures will fill the local emissions reduction gap and will help achieve the Santa Clara CAP emissions reduction target. Most of the emissions reductions come for the Coal-Free and Large Renewables focus area, which corresponds to the largest sources of emissions in Santa Clara. Because the Coal-Free and Large Renewables measures are to be implemented by the City, they are not applicable to the proposed project. The CAP concludes that implementing the following measures would enable the community to reduce emissions by 23.4 percent below 2008 levels by 2020.

For purposes of CEQA analysis, a project that is consistent with each of the applicable feasible measures from the Santa Clara CAP has a less than significant GHG emissions impact.

**Table 4.5-6**
**Proposed Project Consistency with Santa Clara Climate Action Plan**

| Goal or Measure | Goal or Measure Description | Proposed Project Consistency Analysis |
|---|---|---|
| **Focus Area 1: Coal-Free and Large Renewables** | | |
| **Goal** | Eliminate coal from SVP's portfolio and increase use of natural gas and renewable energy. | N/A. The measures to eliminate coal from SVP's portfolio and increase the use of natural gas and renewable energy are to be implemented by the City. The proposed project is consistent with these measures because the project will in no way hinder the City from implementing these measures. |

| Goal or Measure | Goal or Measure Description | Proposed Project Consistency Analysis |
|---|---|---|
| **Measure 1.1: Coal-free by 2020** | Replace the use of coal in Silicon Valley Power's portfolio with natural gas by 2020.<br>**Citywide performance metric for this measure:** 100% of coal power replaced with natural gas. | N/A. This is a measure to be implemented by the City. The proposed project will in no way hinder the City from implementing this measure. |
| **Measure 1.2: Renewable energy resources** | Investigate the use of City-owned property for large-scale renewable energy projects. | N/A. This is a measure to be implemented by the City. The proposed project will in no way hinder the City from implementing this measure. |
| **Measure 1.3: Utility-installed renewables** | Develop up to five solar PV projects with a total installed capacity of 3 to 5 MW.<br>**Citywide performance metric for this measure:** New solar PV projects generating a total of 5 MW. | N/A. This is a measure to be implemented by the City. The proposed project will in no way hinder the City from implementing this measure. Furthermore, a minimum of 15 percent of the roof areas will be reserved for future photovoltaic (PV) solar installation. Infrastructure (conduit, structural elements, etc.) will be provided to facilitate the future PV solar installation. |
| **Focus Area 2: Energy Efficiency Programs** | | |
| **Goal** | Maximize the efficient use of energy throughout the community. | Consistent. The project will be designed and constructed to meet a LEED Gold or equivalent standard. |
| **Measure 2.1: Community electricity efficiency** | Achieve City-adopted electricity efficiency targets to reduce community-wide electricity use by 5% through incentives, pilot projects, and rebate programs.<br>**Citywide performance metric for this measure:** 159,100 megawatt hours (MWh) electricity savings. | Consistent. The proposed project will comply with all electricity use reduction programs to help the City reach its 5 percent reduction target. The new buildings would be constructed to be 10 percent better than 2013 Title 24 and appliances would be Energy Star rated. Example of measures included in the project that will reduce energy use include:<br>• All buildings will exceed Title 24 energy requirements by a minimum of 10 percent.<br>• All apartments will be equipped with Energy Star certified appliances (dishwashers and refrigerators).<br>• Energy efficient LED and fluorescent light fixtures within the apartment buildings and for exterior lighting.<br>• A minimum of 15 percent of the roof areas will be reserved for future photovoltaic (PV) solar installation. Infrastructure (conduit, structural elements, etc.) will be provided to facilitate the future PV solar installation.<br>• The parking garage will be equipped with Electric Vehicle (EV) charging stations.<br>• Temperature controllers would be installed for pool and spa heaters |
| **Measure 2.2: Community natural gas efficiency** | Work with community and social services agencies to provide information from Pacific Gas & Electric (PG&E) to promote voluntary natural gas retrofits in 5% of multi-family homes, 7% of single-family homes, and 7% of nonresidential space through strategic partnerships connecting residents and business owners to available financing resources.<br>**Citywide performance metric for this measure:** 1,700 single-family homes, 1,000 multi-family homes, 410 commercial accounts, and 130 industrial accounts complete natural gas efficiency upgrades. | N/A. The proposed project is not a retrofit, and will be provided with natural gas. Furthermore, the proposed project will cooperate with the implementation of this voluntary measure. |

| Goal or Measure | Goal or Measure Description | Proposed Project Consistency Analysis |
|---|---|---|
| **Measure 2.3: Data centers** | Encourage new data centers with an average rack power rating of 15 kW or more to identify and implement cost-effective and energy-efficient practices.<br>**Citywide performance metric for this measure:** 10% of new data centers utilizing energy-efficient practices. | N/A. The proposed project is not a data center. The proposed project will in no way hinder the City from implementing this measure. |
| **Measure 2.4: Customer-installed solar** | Incentivize and facilitate the installation of 6 MW of customer-owned residential and nonresidential solar PV projects.<br>**Citywide performance metric for this measure:** New solar PV projects generating 6 MW in total installed capacity on homes, nonresidential buildings, parking garages, parking lots, and other feasible areas. Equivalent to 900 residential and 330 nonresidential installations. | N/A. This is a measure to be implemented by the City. The proposed project will advance the goal of this measure by reserving a minimum of 15 percent of the roof areas for future photovoltaic (PV) solar installation. Infrastructure (conduit, structural elements, etc.) will be provided to facilitate the future PV solar installation. |
| **Measure 2.5: Municipal energy efficiency** | Reduce municipal electricity use by 10% through comprehensive energy retrofits of existing equipment and implementation of previously identified energy efficiency projects with a benefit-cost ratio of one or greater.<br>The City should:<br>Benchmark energy use in City facilities using a normalization process, such as that offered through the EPA's Portfolio Service Manager.<br>Identify facilities appropriate for an in-depth energy audit and retrocommissioning site visit<br>Bundle any and all identified projects to reach an attractive payback period, generally less than five years.<br>**Citywide performance metric for this measure:** Replace inefficient equipment in 50% of municipal buildings and facilities. Complete all previously identified cost-effective identified energy efficiency projects. | N/A. The proposed project is not a municipal entity. The proposed project will in no way hinder the City from implementing this measure. |
| **Measure 2.6: Municipal renewables** | Install 1 MW of solar or other renewables at City-owned facilities.<br>**Citywide performance metric for this measure:** New solar PV projects generating 1,000 kW in total installed capacity. | N/A. The proposed project is not a City-owned facility. The proposed project will in no way hinder the City from implementing this measure. |
| **Focus Area 3: Water Conservation** | | |
| **Goal** | Reduce GHG-intensive water use practices. | Consistent. The proposed project is consistent with the measures aimed at reducing GHG-intensive water use practices. |
| **Measure 3.1: Urban Water Management Plan targets** | Meet the water conservation goals presented in the 2010 Urban Water Management Plan to reduce per capita water use by 2020.<br>Promote water conservation in new development through the use of development standards and building requirements<br>Revisit the currently adopted landscape design guidelines to increase efficiency in outdoor water use in new development.<br>Provide information to residents and businesses about the economic and environmental benefits of water conservation | Consistent. This is a measure to be implemented by the City. However, the proposed project includes a suite of project features to reduce potable, per capita water consumption by 21 percent compared to baseline conditions. To achieve this, the proposed project would implement the following water conservation measures:<br>• Recycled water will be used for irrigation of all landscape areas.<br>• New landscape plants will be drought tolerant, native to California or other Mediterranean climates, or other low water use species.<br>• High efficiency irrigation systems and smart |

| Goal or Measure | Goal or Measure Description | Proposed Project Consistency Analysis |
|---|---|---|
| | and low-cost retrofit opportunities.<br>**City-wide performance metric for this measure:** Achieve 100% compliance of the SB X7-7 reduction goal to save 1,362 acre-feet | controllers that use satellite weather data will be used.<br>• All water fixtures (faucets, showerheads, and toilets) will be low flow and/or WaterSense certified for low water use.<br>• All units will be equipped with Energy Star certified dishwashers for low water use.<br>• Common hot water boiler systems will be used for efficient hot water distribution.<br>• A Whole System Water Balancing Modeling process will provide a holistic water performance evaluation to achieve verified water reduction. |
| **Focus Area 4: Waste Reduction** | | |
| **Goal** | Increase recycling opportunities for all disposed materials. | Consistent. The proposed project is consistent with all the measures aimed at increasing recycling opportunities for all disposal materials. |
| **Measure 4.1: Food waste collection** | Support the expansion of existing food waste and composting collection routes in order to provide composting services to 25% of existing restaurants.<br>**Citywide performance metric for this measure:** Participation of 120 restaurants in Santa Clara. | N/A. This is a measure to be implemented by the City. Restaurants in the retail portion of the proposed project will fully cooperate with the City's composting program. |
| **Measure 4.2: Increased waste diversion** | Work with regional partners to increase solid waste diversion to 80% through increased recycling efforts, curbside food waste pickup, and construction and demolition waste programs.<br>Update the Santa Clara City Code (SCCC) to lower the threshold for construction and demolition collection requirements.<br>Adopt recycling ordinances that incorporate new standards for trash, recycling, and composting collection enclosures. For example, require enclosures to accommodate two 4-yard containers.<br>Work with trash collection providers to increase the types of recyclables and organic materials that collection services will accept for recycling.<br>Work with apartment building owners and managers to implement recycling programs.<br>**Citywide performance metric for this measure:** Increase the waste diversion rate from 58% to 80%. | Consistent. This is a measure to be implemented by the City. However, the proposed project will work to appropriately dispose of all construction waste. Debris generated from the demolition of existing buildings would be sorted into materials that can be reused or recycled, materials that are contaminated and cannot be reused, and non-hazardous waste materials. Materials would then be appropriately disposed of, and most of the concrete and asphalt from the demolition would be crushed and ground to use on the site as engineered fill. The project will divert 50 percent of all construction waste, including 100 percent of all asphalt and concrete, and 65 percent (by weight) of all remaining materials.<br>Upon operation of the proposed project a waste recycling program will be available to all residents and businesses located on the project site. |
| **Focus Area 5: Off-Road Equipment** | | |
| **Goal** | Ensure efficient operations of off-road equipment. | Consistent. The proposed project is consistent with all measures intended to ensure efficient operations of off-road equipment. |
| **Measure 5.1: Lawn and garden equipment** | Support and facilitate a community-wide transition to electric outdoor lawn and garden equipment through outreach, coordination with BAAQMD, and outdoor electrical outlet requirements for new development.<br>Encourage and support local and regional retrofit and replacement programs using pamphlet materials and the City's website, and | Consistent. This is a measure to be implemented by the City. As new development, the project will be equipped with the outdoor electrical outlets necessary to accommodate electric outdoor lawn and garden equipment. The project applicant will cooperate with the City and BAAQMD's efforts to encourage the use of electric outdoor equipment. |

| Goal or Measure | Goal or Measure Description | Proposed Project Consistency Analysis |
|---|---|---|
| | at public events.<br>Support BAAQMD efforts to re-establish a voluntary exchange program for residential lawn mowers and backpack-style leaf blowers.<br>Require new buildings to provide outdoor electrical outlets in accessible locations to charge or power electric lawn and garden equipment.<br>**Citywide performance metric for this measure:** Exchange 1,170 leaf blowers and 130 lawn mowers with electric models. | |
| **Measure 5.2: Alternative construction fuels** | Require construction projects to comply with BAAQMD best management practices, including alternative-fueled vehicles and equipment.<br>**Citywide performance metric for this measure:** 30% of construction equipment switches from conventional technologies to hybrid, compressed natural gas (CNG), electric, or biodiesel. | Consistent. The proposed project is required to comply with BAAQMD's best management practices to control on-site construction exhaust emissions**.** |
| **Focus Area 6: Transportation and Land Use** | | |
| **Goal** | Establish land uses and transportation options that minimize single-occupant vehicle use. | Consistent. The proposed project is consistent with all measures intended to establish land uses and transportation options that minimize single-occupant vehicle use. |
| **Measure 6.1: Transportation demand management program** | Require new development located in the city's transportation districts to implement a TDM program to reduce drive-alone trips.<br>The City will offer both a prescriptive and a performance method for projects to demonstrate compliance to minimize the need for additional analysis but provide flexibility for projects proposing alternative methods. To help projects comply using the prescriptive method, the City will prepare checklists for representative project types (residential, commercial, mixed use, office/R&D). Each checklist will identify applicable actions and the estimated vehicle miles traveled (VMT) reductions to occur through implementation.<br>Each project subject to the requirements will be required to submit an annual TDM monitoring report to City staff to evaluate the progress of TDM goals.<br>**City-wide performance metric for this measure:** TDM reporting results in a 1% overall reduction in citywide VMT, with individual projects achieving a minimum 5% to 10% reduction in VMT based on implementation of TDM best practices. | Consistent. According to Figure 22 of the Santa Clara CAP, the project site is located in Transportation Management District 2. According to Table 9 of the CAP, very high density residential uses in this district are not subject to the requirement to reduce VMT through TDM measures. However, the project is located within walking distance of the Santa Clara Station. The project will include direct connections to the adjacent Santa Clara Station, and a network of pedestrian and bicycle paths to and from the Station, Santa Clara University, area retail and service uses, parks, and all residential buildings.<br>The project is pedestrian- and bicycle-oriented to reduce vehicular trips, and will be the first project to adopt and implement the City of Santa Clara's bicycle connectivity plan beginning at the Santa Clara Station and extending to the edge of the project site at the intersection of The Alameda and Benton Street. The project will also be equipped with secure bicycle lockers for residents and retail tenant employees; will provide bicycle racks around the site for retail users as well as guests to the residential building and the greater community. |
| **Measure 6.2: Municipal transportation demand management** | Develop and implement a transportation demand management program for City employees to encourage alternative modes of travel and reduce single-occupant vehicle use.<br>**Citywide performance metric for this measure:** Achieve a 20% reduction in commute-related VMT from City employees. | N/A. This is a measure to be implemented by the City. The proposed project is not a City project and does not employ City employees. The proposed project will in no way hinder the City from implementing this measure. |

| Goal or Measure | Goal or Measure Description | Proposed Project Consistency Analysis |
|---|---|---|
| **Measure 6.3: Electric vehicle parking** | Revise parking standards for new multi-family residential and nonresidential development to allow that a minimum of one parking space, and a recommended level of 5% of all new parking spaces, be designated for electric vehicle charging.<br>Install EV charging stations in public parking lots.<br>At the time of the next comprehensive Zoning Code update, amend Sections 18.74.020(f) and 18.74.020(i) of the Santa Clara City Code (SCCC) to require a portion of new nonresidential parking spaces to include EV charging facilities, consistent with the SCCC.<br>At the time of the next comprehensive Zoning Code update, amend Section 18.18.130 of the SCCC to require that all new multi-family residential and nonresidential development contain at least one new EV charging station and to encourage a recommended maximum of 5% of all new multi-family parking spaces include EV charging stations.<br>**City-wide performance metric for this measure:** 430 parking spaces in new commercial, industrial, and multi-family development that utilize EV charging stations | Consistent. This measure, which calls for changes to the Santa Clara City Code, is to be implemented by the City. The proposed project will in no way hinder the implementation of this measure. As of this date, the City has not yet amended the Santa Clara City Code to adopt the specific requirements for electric vehicle parking.<br>The proposed project will include a total of 839 parking spaces, and will include 43 vehicle charging stations (5 percent of total parking). |
| **Focus Area 7: Urban Heat Island Effect** | | |
| **Goal** | Mitigate the heat island effect through shading and cooling practices. | Consistent. The proposed project will be consistent with all measures intended to mitigate the heat island effect through shading and cooling practices. The proposed project includes an extensive landscaping plan, and will plant 256 trees on the site. |
| **Measure 7.1: Urban forestry** | Create a tree-planting standard for new development and conduct a citywide tree inventory every five years to track progress of the requirements.<br>At the time of the next comprehensive Zoning Code update, amend the SCCC to require a portion of new development to plant shade trees.<br>Review other City tree planting programs, and determine whether to implement an incentive program and/or an educational campaign.<br>Collaborate with local environmental or community organizations to fund program costs or outreach.<br>Identify and promote desirable tree types and locations for plantings to minimize the effect of root systems on infrastructure.<br>**Citywide performance metric for this measure:** Each new development incorporates a minimum of two shade trees near south-facing windows for a total tree-planting goal of 2,500. | Consistent. This is a measure to be implemented by the City. The proposed project will in no way hinder the implementation of this measure.<br>At the current time, the Santa Clara City Code has not yet been amended to require a portion of all new development to plant shade trees.<br>However, the proposed project will include extensive landscaping features. While 26 trees would be removed (including 11 protected trees), the applicant would be required to comply with General Plan Policy 5.3.1-P10, which requires that new development "provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the project." The proposed project will plant 256 new trees to replace the 26 trees that are removed. |

| Goal or Measure | Goal or Measure Description | Proposed Project Consistency Analysis |
|---|---|---|
| **Measure 7.2: Urban cooling** | Require new parking lots to be surfaced with low-albedo materials to reduce heat gain, provided it is consistent with the Building Code.<br>**Citywide performance metric for this measure:** All new uncovered parking lots and spaces utilize light-colored and/or permeable pavements. | Consistent. This is a measure to be implemented by the City. The proposed project will in no way hinder the implementation of this measure.<br>Parking would be provided in a six-story parking structure with five levels above-grade and one level of below-grade parking. The parking structure would be located in the center of the project site and wrapped by the proposed residential and retail uses. Resident parking would be provided in the upper 4 levels of the parking garage. Retail parking would be provided on the lower two levels of the parking garage.<br>The proposed project would not construct any new uncovered parking lots or parking spaces. |

The proposed project is consistent with all applicable goals and measures in the Santa Clara CAP.

## *RTP/SCS Consistency Analysis*

As noted earlier, the Plan Bay Area (the region's RTP/SCS) was adopted in 2013. As a transit oriented development, the proposed project would be consistent with the Plan Bay Area. Specifically, the proposed project is located within a PDA. Local jurisdictions choose a Place Type for each PDA, which provides a general set of guidelines for the character, scale, and density of future growth, consistent with the community vision for the area. The project site is located in "City Center" Place Type in the Plan Bay Area. Guidelines for land uses within areas designated City Center are limited to mid- and low-rise offices, apartments and condominiums, townhomes, and ground floor retail. New projects in this area must have a density of 50 to 150 dwelling units/net acre and/or a net FAR of 2.5. The proposed project will have a density of 67 dwelling units/net acre, is a mid-rise apartment project with ground floor retail and is thus entirely consistent with the City Center designation.

**Table 4.5-7, Proposed Project Consistency with the Plan Bay Area**, below summarizes the Bay Area Plan's goals and the proposed project's consistency with these goals. The proposed project would construct 385 dwelling units contributing to an increase in housing in the region which would support Goal One identified in the Plan Bay Area. The residential units would be located about 500 feet from the Santa Clara Station, and would provide much needed housing in a job rich area of the Bay region. The 385 units will assist the City in improving its current jobs housing imbalance. In addition, 27,000 gross square feet (gsf) of retail uses, including restaurant and retail space, would create jobs in the region and support Goal Two identified in the Plan Bay Area and will provide bicycle and pedestrian amenities. The bicycle and pedestrian amenities are listed in **Chapter 3.0, Project Description.** The project site is within a transit neighborhood centered on the Santa Clara Station and the proposed project would construct dwelling units, increase the density of the project site, and encourage the use of transit given its proximity to the station. Therefore, the proposed project would contribute to the transit neighborhood and create a

mixed-use community with nearby transportation in support of Goal Three identified in the Plan Bay Area.

**Table 4.5-7**
**Proposed Project Consistency with Plan Bay Area**

| Plan Bay Area Goal | | Proposed Project Consistency Analysis |
|---|---|---|
| **Climate Protection:** | Reduce greenhouse gas emissions from cars and light-duty trucks by 15% per capita by 2035 | Consistent. The proposed project will comprise retail and residential uses. Local access retail uses on the project site will reduce the number of vehicle trips made by the project residents and the residents of the adjacent neighborhoods. The proposed project is pedestrian and bicycle oriented to reduce vehicular trips. The project would provide upgrades to the signalized intersection of El Camino Real and Benton Street to facilitate access to Santa Clara Station and widen sidewalks along El Camino Real, Benton Street, and The Alameda.<br>Additionally, the project would incorporate bicycle parking improvements that include on-street and off-street racks near lobbies and entryways for public use, individual racks and spaces throughout the residential parking garage, a bicycle repair center for residents and tenants, a centralized secure bike cage for residents (129 Class I bicycle lockers and 26 Class II bicycle racks, or approximately 0.34 bicycle lockers/unit), retail-oriented bicycle parking (five Class II bicycle racks), and employee-oriented bicycle parking (nine Class I bicycle locker spaces). |
| **Adequate Housing:** | Plan for housing sufficient to house 100% of the Bay Area's future workers and residents from all income levels, without displacing current low-income residents | Consistent. The proposed project is a high density mixed-use development and will include 385 dwelling units. The addition of high density residential housing will assist the City in improving its current jobs housing imbalance. The existing uses at the site are largely commercial and light industrial, with about 10 residential units on the site |
| **Healthy and Safe Communities:** | Improve air quality and reduce exposure to fine and coarse particulates across the Bay Area | Consistent. As discussed in **Section 4.2 Air Quality,** during construction implementation of BMPs will reduce exposure to fine and coarse particles. |
| | Reduce injuries and fatalities from all collisions (including bike and pedestrian by 50%) | N/A. This is a measure to be implemented by ABAG. However, the proposed project will not include hazardous design features that will increase the likelihood of multi-modal collisions. |
| | Increase the average time Bay Area residents spend walking or biking for transportation each day by 15 minutes per person per day | Consistent. The proposed project includes a number of street improvements, including an upgraded signal at the intersection of El Camino Real and Benton Street that would improve the pedestrian movement across El Camino Real and the widening of sidewalks along El Camino Real, Benton Street, and The Alameda that would increase pedestrian activity along the project edge. In addition, the project would incorporate bicycle parking improvements as described above in the Climate Protection consistency analysis. |
| **Equitable Access**: | Promote access to housing, jobs and transportation for all Bay Area residents, particularly low-income and lower-middle income Bay Area residents. | Consistent. The proposed project is a mixed-use development that will include 385 dwelling units, approximately 6,000 square feet of conditioned amenities space, 4,000 square feet of leasing space, three distinct private open space areas, and about 27,000 square feet of retail space. |
| **Economic Vitality:** | Grow economic productivity in the Bay Area by 2% annually | Consistent. The proposed project is a mixed-use development and will include retail space. |

| Plan Bay Area Goal | | Proposed Project Consistency Analysis |
|---|---|---|
| **Transportation System Effectiveness:** | Maintain the Bay Area's transportation system in good repair | N/A. This is a measure to be implemented by ABAG. |
| | Boost the number of trips taken without a car across the Bay Area by 10% | N/A. This is a measure to be implemented by ABAG. |
| | Reduce vehicle miles traveled (VMT) per capita by 10%. | Consistent. The proposed project places high density residential uses within 500 feet of the Santa Clara Station, and provides pedestrian and bicycle connectivity, all of which will reduce the number of vehicle trips made by the project residents and the residents of the adjacent neighborhoods. Due to the locale of the project site and it's accessibility to transit, the number of daily trips would be 34 percent lower than trips associated with a similar sized project at another location. The proposed project is in a PDA and proposes a density consistent with the Plan Bay Area's guidelines for a City Center Place Type. |

## *AB 32 Consistency Analysis*

AB 32 is the basis for reduction of GHG emissions in California. Local agencies, such as the BAAQMD, base their planning and regulations on the requirements included in AB 32, which include a reduction of GHG emissions to 1990 rates by 2020. The BAAQMD adopted the GHG significance thresholds specifically to meet AB 32 requirements within its jurisdiction, and so plans and projects that meet those thresholds can be assumed to meet the requirements of AB 32. As the per capita GHG emissions from the proposed project are well below the BAAQMD efficiency threshold for project-level GHG emissions, the project is in compliance with AB 32. Furthermore, the proposed project is an infill, transit-oriented development located approximately 500 feet from the Santa Clara Transit Center and has been designed with numerous features to promote travel by alternate means and reduce vehicular travel and associated GHG emissions. The proposed project includes 129 Class I bicycle lockers and 26 Class II bicycle racks for residents, five Class II bicycle racks for retail customers, nine Class I bicycle locker spaces for retail employees, and 43 fully-wired and pre-wired electric vehicle charging stations. It also includes numerous pedestrian/bike improvements, including an upgrade to the signalized intersection of El Camino Real and Benton Street to facilitate access to Santa Clara Station and the widening of sidewalks along El Camino Real, Benton Street, and The Alameda. The proposed project includes retail space for stores and restaurants, which would not only reduce vehicle trips by the project residents but would also serve the existing residences in the project vicinity. In addition, the project includes the following energy reducing features that will provide greater energy efficiencies than factored into the calculation of the GHG emissions from the proposed project:

- All buildings will exceed Title 24 energy requirements by a minimum of 10 percent.
- All apartments will be equipped with Energy Star certified appliances (dishwashers and refrigerators).

- Energy efficient LED and fluorescent light fixtures will be installed within the apartment buildings and for exterior lighting.
- A minimum of 15 percent of the roof areas will be reserved for future photovoltaic (PV) solar installation. Infrastructure (conduit, structural elements, etc.) will be provided to facilitate the future PV solar installation.
- The parking garage will be equipped with Electric Vehicle (EV) charging stations.

Therefore, the calculations of GHG emissions are conservative and the proposed project will be consistent with the measures included in AB 32. The proposed project would not conflict with any plans, policies, or regulations for reducing GHG emissions, and the impact would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

### 4.3.4.3 Cumulative Impacts and Mitigation Measures

**Cumulative Impact GHG-1: The proposed project would not result in a significant cumulative GHG impact. (*Less than Significant*)**

As the impact from a project's GHG emissions is essentially a cumulative impact, the analysis presented in the section provides an adequate analysis of the proposed project's cumulative impact related to GHG emissions. Based on the analysis above, the proposed project would result in a less than significant cumulative impact.

**Mitigation Measures:** No mitigation measures are required.

---

## 4.3.5 REFERENCES


Association of Bay Area Governments (ABAG). 2013. *Bay Area Plan*.

Bay Area Air Quality Management District. 2011. *CEQA Air Quality Guidelines*. May. http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES.aspx

California Air Resources Board (CARB). 2014. *First Update to the AB 32 Scoping Plan.* http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm

CARB. 2015. *California Greenhouse Gas Emission Inventory-2015 Edition.* http://www.arb.ca.gov/cc/inventory/data/data.htm

CARB. 2010. *California Greenhouse Gas 2000–2012 Inventory by Scoping Plan Category – Summary.* http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_00-12_report.pdf

California Building Standards Commission. 2010. *2010 Draft California Green Building Standards Code*.

California Building Standards Commission. 2013. *2013 California Green Building Standards Code.*

California Department of Finance. 2002. *California Statistical Abstract*. http://www.dof.ca.gov/html/FS_DATA/STAT-ABS/documents/CA_StatAbs02w.pdf

California Energy Commission. 2007. *Revisions to the 1990–2004 Greenhouse Gas Emissions Inventory Report, Published in December 2006.* http://www.energy.ca.gov/2006publications/CEC-600-2006-013/2007-01-23_GHG_INVENTORY_REVISIONS.PDF

California Energy Commission. 2012. *Building Energy Efficiency Standards- Frequently Asked Questions*. May.

California Environmental Protection Agency (Cal EPA), Climate Action Team. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*.

California Natural Resources Agency. 2009. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB-97*.

City of Santa Clara (CSC). 2013. *Santa Clara Climate Action Plan*. December 3.

CSC. 2014. *City of Santa Clara 2010-2035 General Plan*. Adopted November 16, 2010. Amended December 2014.

Energy Information Administration. 2007. "*Other Gases: Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride*." http://www.eia.doe.gov/oiaf/1605/ggrpt/summary/other_gases.html

Illingworth & Rodkin. 2015. *Mission Town Center Project – Air Quality and Greenhouse Gas Emission Assessment, Santa Clara, California*. November 13.

Intergovernmental Panel on Climate Change (IPCC). 2007. *Climate Change 2007: The Physical Science Basis, Summary for Policymakers.*

IPCC. 2013. "*Climate Change 2013: The Physical Science Basis*." http://www.climatechange2013.org/

Legislative Analyst Office. 2014. "*California is the World's Eighth Largest Economy*." http://www.lao.ca.gov/LAOEconTax/Article/Detail/1

State of California, Governor's Office of Planning and Research (OPR). 2008. *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review*.

OPR. 2009. *Draft CEQA Guideline Amendments for Greenhouse Gas Emissions*.

US Census Quick Facts. 2015. "*State & County QuickFacts*." http://quickfacts.census.gov/qfd/states/06000.html

US Census Bureau. 2000. "*Census 2000 Data for the State of California*." https://www.census.gov/census2000/states/ca.html

US Environmental Protection Agency (US EPA). 2009. *Proposed Mandatory Greenhouse Gas Reporting Rule.* http://www2.epa.gov/sites/production/files/2015-06/documents/rule_e9-5711.pdf

US EPA. 2013. "*Overview of Greenhouse Gases*." http://www.epa.gov/climatechange/ghgemissions/gases.html

US EPA. n.d.(a) "*High GWP Gases and Climate Change*." http://www.epa.gov/highgwp/scientific.html#sf6

US EPA. n.d.(b) "*Methane: Sources and Emissions*." http://www.epa.gov/methane/sources.html

# 4.4 HAZARDS AND HAZARDOUS MATERIALS

## 4.4.1 INTRODUCTION

This section describes the existing conditions with respect to hazards and hazardous materials on the project site and its vicinity, and potential impacts related to hazards and hazardous materials that may occur as a result of the implementation of the proposed project. Regulations and policies related to hazards and hazardous materials are also described in this section. Information presented in this section was obtained from a Phase I Environmental Assessment, including its appendices, prepared by Aquifer Sciences, Inc. in January 2015, a Phase II Environmental Assessment prepared by Aquifer Sciences, Inc. in January 2015, a Supplemental Phase II Environmental Assessment prepared by Aquifer Sciences, Inc. in March 2015, and an Environmental Summary Report prepared by Aquifer Sciences, Inc. in November 2015 (see **Appendix 4.4**).

## 4.4.2 ENVIRONMENTAL SETTING

A number of properties may cause a substance to be considered hazardous, including toxicity, ignitability, corrosivity, or reactivity. According to the State of California (California Code of Regulations Section 66084), hazardous material is defined as

> *a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either: 1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating irreversible illness; or 2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.*

Hazardous wastes are hazardous materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, or contaminated, or are being stored prior to proper disposal. In California hazardous wastes include discarded materials that meet one or more of the criteria listed in the California Code of Regulations (CCR):

- The waste exhibits the characteristics of hazardous wastes identified in CCR Title 22, Division 4.5, Chapter 11, Article 3. Such characteristics include whether the material is ignitable, corrosive, reactive, or toxic.
- The waste is listed, contains a constituent that is listed, or is a mixture of hazardous waste that is listed in CCR Title 22, Division 4.5, Chapter 11.

Hazardous materials, in general, may include products such as pesticides, petroleum products, solvents, chemical intermediates, or heavy metals. Hazardous waste may include spent, discarded, spilled, or contaminated products, or wastes from certain industrial processes, as well as a mixture (e.g., soil, water,

carbon, construction debris, building materials) that exhibits the characteristics of hazardous wastes. California regulates hazardous waste management under CCR Title 22, Division 4.5.

The need for or the level of site remediation related to soil or groundwater affected by hazardous materials depends on specific site conditions, including planned land use, the concentration of the hazardous materials present, potential receptors, and exposure pathways. Site remediation requirements are typically evaluated on a case-by-case basis by the lead regulatory agency overseeing a site.

Activities on the project site that could expose the public to hazardous materials or wastes during project construction and operation include: improper handling or use of hazardous materials; failure of storage containment systems; fire, explosion, or other emergencies; unsound disposal, transport or treatment methods; accidents during transport; or exposure to contaminated soil or groundwater (for example, during excavation and grading) or contaminated building materials during demolition of existing structures.

### 4.4.2.1 Existing Conditions

#### *Project Site*

The existing project site includes approximately 5.7 acres of land and is developed with a number of large warehouses, commercial buildings, and single- and multi-family homes. There are three large warehouse-style buildings on the project site that are operated by El Camino Self-Storage (575 Benton Street, 602 Fremont Street, and 1250 Sherman Street). El Camino Self-Storage also maintains external storage units located adjacent to the main warehouse buildings. There are three single-story commercial buildings on the project site that are occupied by James J. Viso Engineering and Dr. Luigi Canepa, Reiling Automotive, and Mondo Burrito. All the commercial buildings have concrete floors and are slab-on-grade construction. Mondo Burrito also has an asphalt parking lot. There are six single-family homes and one multifamily complex (containing a total of 4 dwelling units) on the project site. Various sheds and garages are located near the residential homes.

The project site is located 0.5 mile from the Norman Y. Mineta San Jose International Airport in San Jose. The Santa Clara University is located one block to the south of the project site. The closest school to the project site is St. Clare School, located approximately 1,500 feet to the south. A total of four single-family homes are located adjacent to the project site to the north and northwest. Other residences within close proximity to the project site include single-family homes located 80 feet to the west across The Alameda and single-family homes and multi-family units located 80 feet to the south across Benton Street. Major roadways in the vicinity of the project site include Benton Street and El Camino Real. Both of these

facilities are designated as arterials by the City of Santa Clara General Plan (2014) and are located adjacent to the project site to the south and east, respectively.

The site is relatively flat, with ground surface elevations ranging from approximately 67 to 72 feet. Based on maps of the historic high groundwater in the project vicinity and investigations in the vicinity of the site, groundwater is approximately 16.5 to 32 feet below ground surface, and groundwater flow direction is generally to the northeast (LTR 2015; Aquifer Sciences 2015c).

### *Hazardous Materials and Waste*

The buildings on the project site are occupied and are currently used for offices and light industrial uses, which have the potential to involve hazardous materials use. Current and previous potential releases of hazardous materials within the project site may include or have included potential releases associated with spills or other onsite releases. A portion of the project site was formerly used as a, now closed, gas station with former underground fuel tanks. These tanks have been removed under agency oversight, as discussed below. Current chemical uses includes 5-gallon buckets and small quantities of used oil, motor oil, coolant, sanitary liquid, lubricants, gasoline, concrete mix, pipe sealants, pipe primer, adhesives, clog remover, floor cleaners, window cleaners, wood cleaners, soap, bleach, paint, and paint thinners. The project site could also potentially be affected by releases of hazardous materials on adjacent sites.

### *Hazardous Materials Transportation*

Hazardous materials are routinely transported by truck in the project vicinity. The California Vehicle Code and California Department of Transportation (DOT) regulations limit transportation of hazardous materials through residential neighborhoods, although local deliveries are allowed. These regulations also require that hazardous materials be transported via routes with the least overall travel time. The City of Santa Clara Public Works Department has designated truck routes for hazardous materials transport to provide access to light industrial and industrial facilities in the City. These routes include El Camino Real, located adjacent to project site. The Caltrain and Union Pacific Railroad lines, which also involve the use and hauling of hazardous materials, are located approximately 440 feet to the east.

### *Existing Hazards*

A Phase I Environmental Assessment was prepared by Aquifer Sciences, Inc., in January 2015. In addition, Aquifer Sciences prepared a Phase II Environmental in January 2015, a Supplemental Phase II Environmental Assessment in March 2015, performed additional soil, groundwater and soil vapor sampling and analysis between March and August, 2015, and prepared an Environmental Summary

Report in November 2015. The information and analysis from these documents and investigations are presented below.

Screening levels for chemicals in soil, groundwater, and soil vapor were used to evaluate the hazardous materials that were detected in these investigations. Screening levels are not regulations, and the presence of a chemical at concentrations in excess of a screening does not necessarily indicate adverse effects on human health or the environment, rather that additional evaluation is warranted (RWQCB 2013). Concentrations of petroleum compounds detected in soil were compared to Regional Water Quality Control Board for the San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs);California Human Health Screening Levels (CHHSLs); and Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites, with California-modified levels per California Department of Toxic Substances Control (DTSC) HERO HHRA Note Number 3 (US EPA 2015; DTSC 2015a). Concentrations of chemicals detected in groundwater were compared with ESLs for Groundwater as a Current or Potential Source of Drinking Water, and the ESL for Potential Vapor Intrusion Concerns (Table E-1) (RWQCB 2013b).

### *Historical Database Review*

The Phase I ESA included the results of an environmental disclosure report compiled for the project site and its vicinity by Environmental Data Resources Inc. (EDR), which is included as **Appendix 4.4** of this EIR. The search service reviewed the most recent versions of federal, state, and local regulatory agency lists to identify sites with known or potential soil or groundwater contamination, hazardous waste generators, wastewater dischargers, and dischargers of chemicals to air and water within a half mile radius of the project site. According to the EDR search, there are two historical contaminated sites on the project site and several in the vicinity of the project site. The potential for environmental threat was evaluated based on information in databases regarding the type of release, current case status, and distance and direction from the site. The location of these sites of concern is shown on **Figure 4.4-1, Nearby and On-Site Sites of Concern**. A brief description of the sites is provided below.

## Explanation

property boundary

1. Joe Amaral Mechanical, 3390 The Alameda
2. Paragon Mechanical, 3390 The Alameda
3. Bill Wilson Center, 3490 The Alameda
4. Guerrera's Automotive, 3305 The Alameda
5. Santa Clara UN Property, 3290 The Alameda
6. Santa Clara Police Station, 601 El Camino Real
7. Mission City Lumber Company, 651 Harrison Street
8. Caltrans, 651 Harrison Street
9. Santa Clara UN Parking Garage, 3205 The Alameda
10. Griffin Auto Parts, 3505 The Alameda

**SOURCE:** Aquifer Sciences, Inc., January 2015

FIGURE **4.4-1**

Nearby and On-Site Sites of Concern

1176.003•10/15

**On-Site Environmental Cases**

***Joe Amaral Mechanical and Paragon Mechanical (3390 The Alameda)***

This site is in several environmental databases listed under the names of Joe Amaral Mechanical, Amaral Mechanical, Amaral, and Paragon Mechanical (hereafter referred to as "3390 The Alameda" site). The environmental databases include: California Leaking Underground Storage Tank (CA LUST), California Historical LUST (CA HIST LUST), Leaking Recovered Government Archive LUST (RGA LUST), California Hazardous Waste Information System (CA HAZNET), California Statewide Environmental Evaluation and Planning System (CA SWEEPS UST), California Historical Cortese List (CA HIST CORTESE), California Facility Inventory Database for active and inactive underground storage tanks (CA FID UST), and GeoTracker.

In 1979, two 10,000-gallon underground gasoline tanks were installed on the site. At an unknown date, a 10,000-gallon underground diesel tank was installed on the site. Two separate environmental cases were opened to conduct monitoring for soil and/or groundwater contamination; one for the two 10,000-gallon gasoline tanks and the other for the 10,000-gallon diesel tank. In or around 1987, two monitoring wells (MW-1 and MW-2) were installed in order to evaluate the presence of petroleum hydrocarbons adjacent to the underground storage tanks as the tanks may have leaked. No contamination was found near the gasoline tanks. Free diesel product was discovered near the diesel tank. Subsequent leak tests discovered a fuel leak at the adjacent diesel fuel pump. The leak was reportedly repaired, and contaminated soil near the fuel pump was removed. The remaining diesel fuel was removed from the tank, and the underground diesel tank was not operated after that. Monitoring well MW-2 was reportedly removed in or around 1987.

In 1991, the two gasoline tanks were removed. Soil samples collected from the bottom of the tank pit showed remaining petroleum hydrocarbons at very low concentrations, below currently applicable residential ESL concentrations. Due to the low levels of contamination detected beneath the gasoline tanks, in 1995 the Santa Clara Valley Water District (SCVWD) concluded there was not substantial evidence of a significant release, noted an absence of apparent risk to human health and the environment, and issued underground storage tank case closure for the gasoline tanks case (SCVWD 1995).

In 1997, the diesel tank was removed, and soil samples collected from the bottom of the tank pit showed remaining diesel, which slightly exceeds currently applicable ESL concentrations. A new monitoring well (MW-3) was subsequently installed approximately 10 feet from the fuel pump. In 2000, the SCVWD noted that although residual contamination exists at the site, concentrations were below regulatory concern,

there was an absence of apparent risk to human health and the environment, and issued fuel leak site case closure for the diesel tank case (SCVWD 2000b).

**Nearby Environmental Cases**

***Bill Wilson Center (3490 The Alameda)***

Bill Wilson Center at 3490 The Alameda is located adjacent to the project site to the northwest and is listed in the CA SPILLS 90 environmental database. Various laundry and cleaner companies occupied the site from 1963 to 1974. The status of the case is listed as closed and the lead agency is listed as the RWQCB. No other relevant information is ascertainable. Based on the regional groundwater flow direction, this site is located downgradient from the project site.

***Guerrera's Automotive (3305 The Alameda)***

Guerrera's Automotive at 3305 The Alameda is located approximately 65 feet to the west of the project site. Based on the regional groundwater flow direction, Guerrera's Automotive is upgradient of the site. The site is listed in several environmental databases, which include: CA LUST, CA HIST LUST, EDR US Hist Auto Stat, CA HIST CORTESE, and GeoTracker.

In 1986, gasoline was detected in soil samples collected adjacent to three 575-gallon underground storage tanks. In 1987, the three tanks were removed from the site. The tanks and associated dispensers were located near the intersection of The Alameda and Benton Street. During tank removal, approximately 50 cubic yards of contaminated soil were excavated and removed from the tank pit. In 1999, two soil borings were advanced in the vicinity of the tanks. Soil samples did not contain any petroleum hydrocarbons or associated volatile organic compounds (VOCs). Grab groundwater samples contained gasoline, benzene, toluene, ethylbenzene, and xylenes. In 2000, the SCVWD noted that although residual contamination exists at the site, concentrations were below regulatory concern, there was an absence of apparent risk to human health and the environment, and issued fuel leak site case closure for the site (SCVWD 2000a).

***Santa Clara University Property (3290 The Alameda, "Old Simas Service Station")***

The Santa Clara University property at 3290 The Alameda is located approximately 65 feet south of the project site. Based on the regional groundwater flow direction, the property is upgradient of the project site. The site is listed in several environmental databases, which include: CA LUST, CA HIST LUST, CA HIST CORTESE, and GeoTracker.

The site was formerly a Simas service station. In 1986, one 10,000-gallon and two 2,000- gallon underground storage tanks were removed from the site. Soil samples contained gasoline at

concentrations up to 233 mg/kg. In 1994, one 550-gallon underground waste oil tank was removed from the site. Subsequent soil sampling detected gasoline, benzene, toluene, ethylbenzene, and xylenes in the soil. In 2000, the SCVWD noted that although residual contamination exists at the site, concentrations were below regulatory concern, there was an absence of apparent risk to human health and the environment, and issued fuel leak site case closure for the site (SCVWD 2000c). At the time of closure, gasoline, benzene, toluene, ethylbenzene, and xylenes remained in groundwater. In 2003, a 1,000-gallon underground storage was discovered and removed from the site. When the tank was discovered, the case was reopened. Subsequent soil sampling detected gasoline and diesel in the soil. Ethylbenzene and naphthalene were also detected in the soil at lower concentrations. Gasoline, diesel, benzene, ethylbenzene, toluene, and xylenes were detected in the groundwater. In 2004, monitoring wells were installed and tested quarterly until 2006. In 2007, a soil vapor study was conducted at the site, and the results indicated that the chemicals detected were not above the ESLs for residential development. In 2010, the County of Santa Clara concluded that the residual soil and groundwater contamination at the site does not pose a continuing, significant threat to groundwater resources, human health, or the environment, and issued fuel leak site closure for the site (County of Santa Clara 2010).

***Santa Clara Police Station (601 El Camino Real)***

The Santa Clara Police Station at 601 El Camino Real is located approximately 125 feet northeast of the project site. Based on the regional groundwater flow direction, the Santa Clara Police Station site is down gradient of the project site. The Santa Clara Police Station is listed in several environmental databases, which include: California Underground Storage Tank (CA UST), California Aboveground Storage Tank (CA AST), EDR Proprietary Manufactured Gas Plant (EDR MGP), CA DEED, California Voluntary Cleanup Program (CA VCP), and CA ENVIROSTOR.

The site was developed by 1885 and was formerly used by several organizations (Southern Pacific Railroad, E.J. Barker's Grain Company, the Santa Clara Municipal Gas, Electric, and Water Works facility) and by a dried fruit and nut packing facility. In 1993, during construction of State Highway 82, one 500-gallon diesel tank was removed, and approximately 3,450 cubic yards of impacted soil was excavated. Later investigations encountered a black material in thin layers within the upper 3 feet of soil across the 601 El Camino Real site. The material was described as a black carbonaceous substance, later identified as lampblack. Lampblack was a byproduct of the former municipal manufactured gas plant. In addition to lampblack, five monitoring wells and an underground gasoline storage tank were discovered. A soil quality investigation detected lead and polyaromatic hydrocarbons (PAHs) in the soil. In 1998, the site was remediated by excavating the impacted soil and consolidating the material onsite beneath the police station parking areas. A 2-foot cap of clean material was placed on the consolidation areas. The underground storage tank was excavated and removed as part of the remediation. Several water supply

and monitoring wells were encountered during remediation and were destroyed. As part of the 601 El Camino Real site environmental remedy, the DTSC placed a deed restriction on the property that prevents residential usage, limits activities that could disturb the cap, and requires implementation of an Operations and Maintenance Plan. Currently, the City of Santa Clara police headquarters facility is located on the site and the City of Santa Clara continues to be subject to the Operations and Maintenance Plan (DTSC 2015c).

***Mission City Lumber Company (651 Harrison Street)***

Mission City Lumber Company at 651 Harrison Street site is located approximately 50 feet north of the project site. Based on the regional groundwater flow direction, the Mission City Lumber Company site is down gradient of the project site and does not pose an environmental risk to potential users of the project. The site is listed in the CA HIST UST environmental database.

According to the CA HIST UST database, a 500-gallon underground waste fuel storage tank was installed in 1947. There are no records indicating that the storage tank was removed. No other relevant information is ascertainable. Currently a restaurant and parking areas occupy the site.

***Caltrans (651 Harrison Street)***

The Caltrans site also at 651 Harrison Street is located approximately 125 feet northwest of the project site. Based on the regional groundwater flow direction, the Caltrans site is down gradient of the project site and does not pose a risk to users of the project site. The 651 Harrison Street site is listed in several environmental databases, which include: CA HIST CORTESE, CA LUST, CA HIST LUST, and GeoTracker.

In 1988, during the relocation of State Highway 82, one 1,000-gallon diesel tank and one 500-gallon gasoline tank were discovered and removed. The 1,000-gallon tank was located near the intersection of El Camino Real and Benton Street, and the 500-gallon gasoline tank was located near the intersection of El Camino Real and Harrison Street. A soil and groundwater quality investigation detected gasoline in the soil near the gasoline tank. Gasoline, benzene, toluene, xylenes, and ethylbenzene were detected in groundwater near the gasoline tank. No contaminants were detected near the diesel tank. In 1989, soil was excavated from the former gasoline tank pit. During verification soil sampling, gasoline was found at 32 feet below ground surface. In 2000, soil samples were collected in the vicinity of the gasoline tank. Gasoline was detected in the soil and groundwater samples. Benzene, toluene, ethylbenzene, xylenes, and MTBE were detected in the groundwater samples. In 2002, the SCVWD concluded that a continuing threat to groundwater, human health, and the environment from residual petroleum hydrocarbons does not exist at this site and issued fuel leak site case closure for the site.

## *Historical Uses of the Project Site*

The Phase I ESA also provided a summary of historical uses for the project site. Historical use information for the project site and vicinity was gathered from aerial photographs, topographic maps, city directories, and environmental records.

Since 1891, the project site has been used for industrial and residential purposes. Between 1891 and 1915, the original Southern Pacific Railroad transected the project site from northwest to southeast, and tracks remained on the site until State Highway 82 (El Camino Real) was relocated in the late 1980s. Since 1993, the project site has retained its present appearance. Finally, multiple gas stations and vehicle service stations have operated on the corner of Benton Street and The Alameda since the 1950s. A summary of land uses on the project site throughout the years is presented below in **Table 4.4-1, Historical Use of the Project Site**.

**Table 4.4-1**
**Historical Use of the Project Site**

| Years of Operation | Site Use |
|---|---|
| 1891 | The site appears to consist of three main sections. The first section located at the southwestern edge of the site appears to be two blocks of residential properties bounded by Grant Street to the southwest, Harrison Street to the northwest, Sherman Street to the northeast, and Benton Street to the southeast. The residential blocks are transected by Fremont Street. The second section is located at the southeastern edge of a triangular plot of the site adjacent to Sherman Street at the corner of Sherman Street and Benton Street, which contained E. J. Baker's grain warehouse with a dedicated railroad branch line of the Southern Pacific Railroad main line. The third section is located at the western edge of the site and of the triangular plot. The area contained a platform and freight depot for the Southern Pacific Railroad main line. The Southern Pacific Railroad main line appears to follow the modern-day path of State Highway 82. |
| 1915 | The Southern Pacific Railroad main track, platform, and freight depot building at Sherman Street and Benton Street appear to have been removed between 1891 and 1915; however, the tracks remained. There are no other visible changes in land use. |
| 1939 - 1950 | One clearly visible structure located northwest of the E. J. Baker's grain warehouse adjacent to Sherman Street at the corner of Benton Street was constructed and was labeled as Canciamilla Fruit Company. There are no other visible changes in land use. |
| 1950 - 1961 | By 1956, a plywood warehouse was constructed to the northeast on Benton Street next to the E. J. Baker's grain warehouse adjacent to Sherman Street. By 1961, E. J. Baker's grain warehouse appears to have been removed and, the Canciamilla Fruit Company building was occupied by a valve warehouse. Also, another plumbing supply store was constructed on the southern side of Fremont Street between Sherman Street and The Alameda. There were no other visible changes in land use. |
| 1961 - 1968 | By 1966, a gas station was constructed at the northern corner of The Alameda |

| Years of Operation | Site Use |
|---|---|
| | and Benton Street. There were no other visible changes in land use. |
| 1968 - 1993 | By 1993, the Southern Pacific Railroad branch line that traversed the triangular property near the plywood warehouse was removed. The Southern Pacific Railroad mainline was rerouted to the northeast. The original train tracks were replaced by State Highway 82, which crosses the northeastern corner of Sherman Street and Harrison Street. |
| 1993 – present | There were no visible changes in land use. |

*Source: Aquifer Sciences, Inc. 2015a.*

## *Historical Use of Adjacent Sites*

Land uses in the vicinity of the project site consist of commercial, retail, and residential uses. Land uses adjoining the project site primarily consist of residences, auto shops, and gas stations. A summary of land uses on adjacent sites is presented below in **Table 4.4-2, Historical Use of Adjoining Sites**.

**Table 4.4-2**
**Historical Use of Nearby Sites**

| Years of Operation | Use |
|---|---|
| 1891 - 1915 | Residential land use remained unchanged to the northwest of Harrison Street, southwest of Sherman Street, and southeast of Benton Street. The area northeast of the Southern Pacific Railroad appears to have been modified between 1891 and 1915, including the Santa Clara Municipal Gas, Electric, and Waterworks facility which contained multiple aboveground oil and gas holding tanks. The Cured Fruit Association of California constructed three buildings during the same time period northeast of the Santa Clara Municipal Gas, Electric, and Waterworks facility. |
| 1939 - 1950 | There were no visible changes in land use. |
| 1950 – 1961 | By 1950, two gas stations and car maintenance facilities were constructed at the southeastern and northwestern corners of Benton Street and The Alameda. Also by 1950, a lumberyard was constructed near the corner of Sherman Street and Harrison. By 1961, a third gas station was constructed at the southern corner of Benton Street and The Alameda. |
| 1961 – 1968 | By 1966, two of the three buildings southwest of the Cured Fruit Association of California appear to have been removed. The northeastern-most building remained and was used by the Mayfair Packing Company. |
| 1968 – 1993 | By 1993, the Southern Pacific Railroad track was rerouted to the northeast. The railway was replaced by State Highway 82. |
| 1993 – present | By 1999, the Santa Clara Municipal Gas, Electric, and Waterworks facility was removed, and construction of the Santa Clara police headquarters was begun adjacent to and northeast of State Highway 82. |

*Source: Aquifer Sciences, Inc. 2015a.*

### *Site Reconnaissance*

According to the Phase I ESA, an inspection of the project site was performed on November 17 and 18, 2014. The inspection included an exterior walk-through of the project site as well as an interior inspection of the commercial properties on the project site, with the exception of one storage building at 3370 The Alameda. Interior inspections were not performed in the residential structures. The exteriors of adjoining sites were also visually evaluated as part of the site reconnaissance.

Reiling Automotive, located at 3340 The Alameda, has operated at the project site for approximately 17 years. Prior to that, another automotive shop was operated in the same location since 1970. Evidence of spills and leaks on the concrete floor, a former paint booth, former underground storage tanks, and equipment in the yard indicated that soil and groundwater may be impacted.

### *Project Site Soil and Groundwater Testing*

Based on potential environmental issues on the project site identified in the Phase I ESA, additional soil and groundwater testing was conducted on the project site which was documented in the Phase II and Supplemental Phase II ESAs (**Appendix 4.4**). Specific information regarding sample depths and details is provided in **Table 4.4-3, Soil and Groundwater Testing.**

**Table 4.4-3**
**Maximum Concentrations of On-site Contaminants**

| Media | Contaminant Exceeding Screening Level and Maximum Concentration |
|---|---|
| Soil | TPH gasoline: 680 mg/kg |
| | TPH diesel: 330 mg/kg |
| | TPH motor oil: 520 mg/kg |
| | Ethylbenzene: 6.3 mg/kg |
| | Naphthalene: 4.1 mg/kg |
| | Xylenes: 20 mg/kg |
| | Benzo(a)pyrene: 0.24 mg/kg |
| | Phenol: 0.77 mg/kg |
| | Arsenic: 22 mg/kg |
| | Cadmium: 4.4 mg/kg |
| | Cobalt: 44 mg/kg |
| | Lead: 810 mg/kg |
| | Aldrin: 3.6 mg/kg |
| | Dieldrin: 3.8 mg/kg |

| Media | Contaminant Exceeding Screening Level and Maximum Concentration |
|---|---|
| Groundwater | TPH gasoline: 15,000 μg/L |
| | TPH diesel: 100,000 μg/L |
| | TPH motor oil: 36,000 μg/L |
| | Benzene: 240 μg/L |
| | Ethylbenzene: 640 μg/L |
| | Naphthalene: 120 μg/L |
| | Toluene: 570 μg/L |
| | Xylenes: 2,000 μg/L |
| | Arsenic: 100 μg/L |
| | Cobalt: 4.0 μg/L |
| | Molybdenum: 99 μg/L |
| | Nickel: 13 μg/L |
| Soil Vapor | Tetrachloroethylene (PCE): 330 μg/m3 |

*Source: Aquifer Sciences, Inc., 2015d.*

**Soil Sampling**

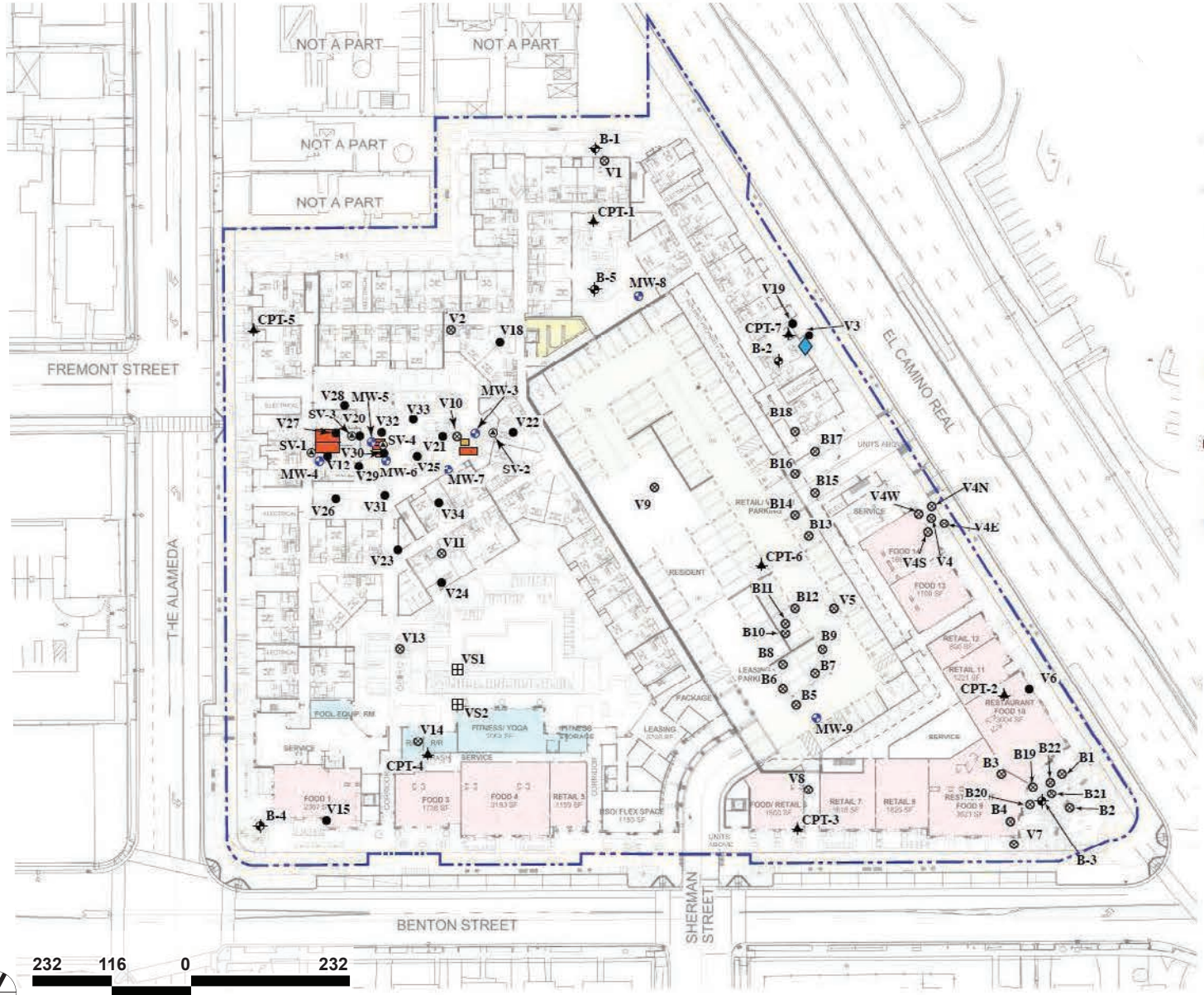
In December 4, 2014, soil sampling was conducted at 17 locations across the site (V1 through V15 and VS1 and VS2). Additional drilling and sampling was conducted in January, February, and July 2015 to supplement the existing data and better assess the vertical and horizontal extent of previously identified contamination. Sampling locations are illustrated on **Figure 4.4-2, Soil and Groundwater Sampling Locations**.

**Groundwater Sampling**

In December 2014, groundwater samples were collected from monitoring well MW-3 and borings V6, V12, and V15, as shown on **Figure 4.4-1.** Additional groundwater sampling was conducted between January and August, 2015 to supplement the existing data and better assess the vertical and horizontal extent of previously identified as shown on **Figure 4.4-1**.

**Soil Vapor Sampling**

Temporary soil vapor probes SV-1 and SV-2 were installed and sampled in the soil stockpiles located behind the residence at 1104 Sherman Street on January 28, 2015 as shown in **Figure 4.4.-1**. Additional soil vapor samples were collected in June 2015 to supplement the existing data and better assess the vertical and horizontal extent of previously identified impacted soils and groundwater as shown in **Figure 4.4.-1.**




EXPLANATION

- Langan soil boring location
- Langan CPT location
- soil stockpile sampling location
- soil sampling location
- soil and grab groundwater sampling location
- monitoring well
- soil vapor monitoring location
- former tank location
- former fuel dispenser location
- metallic mass

232 116 0 232

APPROXIMATE SCALE IN FEET

**SOURCE:** Aquifer Sciences, Inc., January 2015

FIGURE **4.4-2**

Soil and Groundwater Sampling

1176.003•10/15

**Sampling Findings**

Aquifer Sciences findings based on the samples collected on the project site are presented in detail below. **Table 4.4-3, Maximum Concentrations of On-site Contaminants,** presents the maximum concentrations of contaminants at the site that exceed applicable screening levels.

**Former Underground Storage Tanks**

- High concentrations of petroleum hydrocarbons (TPH-gasoline, TPH-diesel, and TPH-motor oil) were detected in soil and groundwater samples collected in the vicinity of the former underground storage tanks. Although the environmental cases were closed for these tanks, the regulatory agencies allowed residual contamination to remain in place at the site.

- Petroleum hydrocarbon concentrations in groundwater samples from well MW-3 were considerably lower in January 2015 than the December 2014 sampling event. Fluctuating petroleum hydrocarbon concentrations may be due to a small volume of accumulated petroleum hydrocarbons in the filter sand surrounding the monitoring well casing that were evacuated during the December 2014 sampling event. Well MW-3 was installed in 1997 and has since remained inactive.

- Aquifer Sciences concluded that petroleum hydrocarbon contamination in groundwater in the vicinity of the former tanks is limited in extent and does not appear to extend northward across Fremont Street. Upgradient samples collected from borings V23 and V24 did not contain any TPH concentrations, confirming the localized extent of TPH in the former tank vicinity.

**Lampblack**

- Black, glassy particles were observed in shallow soil from boring V4. The black soil (possibly lampblack) extended to depths of approximately 4 feet at certain locations on the 575 Benton Street parcel. Consistent with lampblack, this black soil contained elevated concentrations of PAHs at nearby borings. It is possible that the black soil and glassy slag-like particles are related to the City's former power plant that was located north of El Camino Real. PAHs and Benzo(a)pyrene were detected in soil samples in the vicinity of boring V4 and at 575 Benton Street. Benzo(a)pyrene was detected above the ESLs in borings V4N-2, V4E-2, V4S-2, and B-18-2 at concentrations up to 0.24 mg/kg. As described below, lead and other metals were also detected above the RSLs and/or ESL in the vicinity of boring V4 and are likely associated with the lampblack.

**PCE**

- Low concentrations of PCE were detected in shallow soil from boring V16 located adjacent to the Bill Wilson Center. The source of PCE in soil is likely from former land usage at the Bill Wilson Center.

PCE was also detected in soil vapor slightly above the ESL in one sample collected in the vicinity of the former underground storage tanks, but is below the RSL.[1]

**Metals**

- Naturally occurring metals known to occur in regional soil and rock and were detected in varying concentrations in all of the soil samples. Arsenic, cadmium, lead, and zinc were detected in some samples at concentrations exceeding one or more of the applicable health-based screening levels. Metals concentrations in soil are generally consistent with background concentrations, with elevated metal concentrations primarily associated with elevated concentrations of lampblack at sampling locations V-4 and B-18-2.

- Arsenic was detected in all soil samples at concentrations up to 22 mg/kg. Soils of the San Francisco Bay area typically contain background concentrations of arsenic up to approximately 20 mg/kg. None of the arsenic concentrations exceeded the Total Threshold Limit Concentration (TTLC) or Soluble Threshold Limit Concentration (STLC).

- Cadmium was detected in the soil samples, exceeding the residential CHHSL, in samples V4-2 and B-18-2. The locations also revealed elevated concentrations of PAHs and lead discussed above in the section addressing "Lampblack." In sample V12-2, cobalt exceeded the ESL and RSL, but not the residential CHHSL. The presence of cadmium and cobalt in soil are generally consistent with background concentrations at the site and are likely not environmental issues for redevelopment.

- Chromium and nickel concentrations are generally consistent with background concentrations, but exceeded the rule-of-thumb comparison of 10 times the STLC in several soil samples. In soil sample V4-2 zinc exceeded the ESL, but not the CHHSL. Follow-up analysis showed that the soluble chromium, nickel, and zinc concentrations did not exceed the STLC, and therefore is not hazardous.

- Lead was detected at concentrations exceeding the residential CHHSL and/or ESL in six samples. Lead also exceeded the STLC in sample V4-2, which is considered hazardous. Four of the five samples collected in the vicinity of boring V4 contained lead at concentrations up to 810 mg/kg, exceeding the residential CHHSL and ESL. Some of these locations also revealed elevated concentrations of PAHs, discussed above in the section addressing "Lampblack." Due to the co-location of lampblack concentrations and elevated concentrations of lead, lead is presumed to be associated with sources other than aerial deposition from combustion engines.

- Arsenic was detected in groundwater samples from well MW-3 up to 100 μg/L. Elevated arsenic concentrations at well MW-3 is likely due to a process called dissimilatory iron reduction, which is a reaction facilitated by microbial degradation of organic material.

- Metals were detected in the groundwater samples. The concentrations of arsenic, molybdenum, and nickel were the only metals that exceeded the ESLs.

---

1 DTSC (2011) considers an attenuation factor of 0.001 appropriate to calculate allowable soil vapor under new residential structures relative to indoor air goals. Therefore residential indoor air screening levels (available as a RSL) are divided by 0.001 to calculate soil vapor screening levels. The residential indoor air RSL is 0.48 ug/m$^3$ (DTSC 2015c). Therefore the RSL for PCE in soil vapor is 480 ug/m$^3$.

**Other**

- A metallic mass was detected in the vicinity of boring V3 during utility clearance. Soil samples collected from borings V3 and V19 indicate that soil and groundwater quality in the vicinity of the metallic subsurface feature has not been impacted by petroleum hydrocarbons or VOCs.
- Several soil samples contained phenol at concentrations exceeding the ESL, and may be a minor environmental issue during redevelopment.
- Pesticides were detected in stockpile samples VS1 and VS2, exceeding the CHHSLs and ESLs for aldrin and dieldrin. There is no history of agricultural use at the site, and pesticides were not detected in the other three samples that were analyzed for pesticides.

#### 4.4.2.2 Government Records Searches

Based on searches of government records conducted in conjunction with the preparation of the Phase I and Phase II ESAs, none of the parcels that make up the project site are on the current Cortese List prepared pursuant to Government Code Section 65962.5. One parcel, located a 3390 The Alameda, is included on the California Historical Cortese List. The cases associated with this parcel have been closed under regulatory oversight.

#### 4.4.2.3 Fire Hazards

The majority of the City is urbanized and developed with limited open space. The project site and the areas around the project site are developed. There are no wildfire hazards in the City of Santa Clara (CSC 2011).

#### 4.4.2.4 Asbestos Containing Materials

Asbestos is a common name for a group of naturally occurring fibrous silicate minerals that are made up of strong durable fibers, which vary in size and physical shape. Asbestos is strong, incombustible, and corrosion resistant. Because of its physical properties, asbestos was used in many commercial products in construction and many other industries, since prior to the 1940s and up until the early 1970s. Asbestos is commonly found in various manmade products including insulation, ceiling and floor tiles, roof shingles, cement, and automotive brakes and clutches.

Asbestos fibers are relatively stable in the environment, because asbestos is a mineral. Asbestos fibers do not evaporate into air. Asbestos Containing Materials (ACMs) are building materials containing more than 1 percent asbestos (some state and regional regulators impose a 0.10-percent threshold). ACMs that can be crushed into a powder are termed “friable asbestos.” When ACM become friable, there is chance that asbestos fibers can become suspended in air.

It is under these conditions that airborne asbestos fibers represent the most significant risk to human health. Asbestos particles do not migrate through soil. Asbestos fibers do not dissolve in water, but under certain conditions they may become waterborne and accumulate in steam beds and sediment. Asbestos is a potential health concern, since long term, chronic inhalation exposure to high levels of asbestos can cause lung diseases, including asbestosis, mesothelioma, and/or lung cancer. Many of the buildings on site were constructed before the 1970s. Therefore, there is potential for some of the project site buildings to contain ACMs. Several different federal, state, and local agencies regulate asbestos, including the California Air Resources Board and Bay Area Air Quality Management District (BAAQMD). BAAQMD's regulations implement, through a delegation of authority from the United States Environmental Protection Agency, the air quality requirements of the Federal Clean Air Act. Generally, worker exposure is regulated by the federal Occupational Safety and Health Administration (OSHA) and its California State counterpart Cal/OSHA.

#### 4.4.2.6 Lead-Based Paints

Until 1978, when the US Consumer Product Safety Commission (CPSC) phased out the sale and distribution of residential paint containing lead, many homes were treated with paint containing some amount of lead. It is estimated that over 80 percent of all housing built prior to 1978 contains some lead-based paint (LBP). The mere presence of lead in paint may not constitute a material to be considered hazardous. In fact, if in good condition (no flaking or peeling), most intact LBP is not considered to be a hazardous material. In poor condition, LBPs can create a potential health hazard for building occupants, especially children. Many of the existing structures present within the project site were built before 1975. Therefore, there is a high likelihood for LBPs to be found on the project site.

#### 4.4.2.7 Airport Hazards

There are no public or private airports located within the City of Santa Clara. However, the project site is located 0.5 miles from the Norman Y. Mineta San Jose International Airport in San Jose and is located within its Airport Influence Area. The project site is also located approximately 4 miles from Moffett Federal Airfield in Mountain View.

### 4.4.3 REGULATORY SETTING

Hazardous materials handling and hazardous waste management are governed by federal, state, and local laws and regulations. Key regulations are summarized below.

#### 4.4.3.1 Federal Regulations

The US Environmental Protection Agency (US EPA) is the main federal agency responsible for enforcing laws and regulations relating to hazardous materials and wastes, including evaluation and remediation of contamination and hazardous wastes. The US EPA works collaboratively with other agencies to enforce hazardous materials handling and storage regulations and site cleanup requirements. The Occupational Safety and Health Administration (OSHA) and the Department of Transportation (DOT) are authorized to regulate safe transport of hazardous materials.

Federal regulations which regulate the handling (including transportation), storage, workplace safety, and disposal of hazardous materials and wastes are contained primarily in Titles 10, 29, 40, and 49 of the Code of Federal Regulations (CFR), specifically the Resource Conservation and Recovery Act of 1976 (RCRA). The National Contingency Plan, CFR Title 40, part 300, implements Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA provides for liability of persons responsible for releases of hazardous substances; a process for responding to environmentally impacted sites, and establishes a trust fund to provide for clean up when no responsible party is identified.

RCRA created a major new federal hazardous waste "cradle-to-grave" regulatory program administered by EPA. Under RCRA, US EPA regulates the generation, treatment, and disposal of hazardous waste, and the investigation and remediation of hazardous waste sites. RCRA includes procedures and requirements for reporting releases of hazardous materials and for cleanup of such releases. RCRA also includes procedures and requirements for handling hazardous wastes or soil or groundwater contaminated with hazardous wastes. Individual states may apply to US EPA to authorize them to implement their own hazardous waste programs, as the primary hazardous waste regulator, as long as the state program is at least as stringent as federal RCRA requirements. California has been authorized by US EPA to implement its own hazardous waste program, with certain exceptions. The California program is handled by the DTSC as described below.

CERCLA establishes a clean-up and liability regime and process for certain properties contaminated by hazardous substances that poses a threat to human health and the environment. The Hazardous Materials Transportation Act is administered by the DOT via its issuance of inspections, training, and transportation requirements and information; the federal government delegates enforcement authority to the states.

Federal Aviation Regulation (FAR) Part 77 "Objects Affecting Navigable Airspace" sets forth standards and review requirements for protecting the airspace for safe aircraft operation, particularly by restricting the height of potential structures and minimizing other potential hazards to aircraft such as reflective surfaces, flashing lights, and electronic interference. These regulations require that the Federal Aviation Administration (FAA) be notified of certain proposed construction projects located within an extended zone defined by an imaginary slope radiating outward for several miles from an airport's runways, or which would otherwise stand at least 200 feet in height above ground.

#### 4.4.3.2 State Regulations

State agencies that regulate the use of hazardous materials include the California Environmental Protection Agency (Cal/EPA), the Office of Emergency Services (OES), the Department of Health Services (DHS), the DTSC, and the Regional Water Quality Control Board (RWQCB).

The DTSC, the State Board, and the RWQCBs agreed to a Brownfield Memorandum of Agreement (MOA), which establishes procedures and guidelines for identifying the lead agency for a single site, calls for a single uniform site assessment procedure, requires all cleanups to address the requirements of the agencies, defines roles and responsibilities, provides for ample opportunity for public involvement, commits agencies to review timeframes, and commits agencies to coordinate and communicate on brownfields issues. Through this process, it is decided whether a particular environmental cleanup site will be overseen by the DTSC or the applicable RWQCB.

Generally, the DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste, and the investigation and remediation of hazardous waste sites. The DTSC implements the provisions of both federal and state hazardous waste laws through the California Hazardous Waste Control Law. The DTSC and the RWQCBs administer laws for the clean-up on of environmentally impacted sites. Lead responsibility for remediation depends on the proposed use of a parcel, the character of waste contaminants, and the need for site monitoring.

The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) are the enforcement agencies for hazardous materials transportation regulations. State regulations applicable to hazardous materials are contained in Titles 8, 22, and 26 of the California Code of Regulations (CCR) and include the State Water Code, Underground Storage Tank Code, Cortese Act (listing of hazardous waste and substances sites), and Proposition 65 (safe drinking water and toxics enforcement).

Cal/OSHA regulates work practices at asbestos levels less than 1 percent. Samples containing less than 1 percent asbestos are regulated as outlined in 8 CCR Section 1529. Cal/OSHA regulates work practices associated with the removal and abatement of lead-based paint.

The California Accidental Release Prevention (CalARP) program regulates facilities that store greater than a threshold quantity of a regulated substance, which the State has determined represents a potential health and safety hazard beyond the facility's boundary. The regulated substances include 276 toxic chemicals and 63 flammable substances. This program requires a facility to develop and implement a Risk Management Plan (RMP) that includes the following: (1) a Hazard Assessment, (2) Prevention Elements, (3) Management System, and (4) Emergency Response Program. The Hazard Assessment requires external event analyses, including seismic analysis, worst-case release scenario (WCRS) modeling, alternate release scenarios (ARS) modeling, and a review of historical accidents. The prevention elements, which are in place to prevent an accidental release, include operating procedures, mechanical integrity, training, incident investigation, and managing change that may occur in the processes. The facilities are required to have a management system in place to ensure that all of the prevention elements are being implemented. The facilities are also required to have an emergency response program, including an emergency response plan (BASELINE 2015). CalARP regulated facilities are required to submit their risk management plan (RMP) to the local CUPA. The Santa Clara Fire Department is the CUPA for the City of Santa Clara.

### 4.4.3.3 Local Regulations

#### *Bay Area Air Quality Management District Regulations*

The BAAQMD is the local National Emissions Standards for Hazardous Air Pollutants (NESHAPS) authority for the Bay Area. The BAAQMD requires 10 business days' notification prior to the commencement of demolition activities or work that affects regulated ACMs.

#### *Municipal Fire and Environmental Code*

The City of Santa Clara Municipal Fire and Environmental Code (Fire Code) provides guidelines for property owners handling hazardous materials. The Fire Code includes detailed information indicating under what circumstances an operational permit is required for storage of hazardous materials and the associated fee for the permit. The operational permits are required for storing or using compressed gases or hazardous materials on a property of certain types and quantities. Additional fees are required for annual inspections by the City of Santa Clara Fire Department and associated with Certified Unified Program Agency (CUPA) programs.

The Fire Prevention/Hazardous Materials Division is a division within the City of Santa Clara Fire Department responsible for various elements including recordation and inspection of hazardous waste generators and Fire Code enforcement. Additionally the Hazardous Materials Division implements the

CalARP which is designed to prevent the accidental release of regulated substances, including hazardous materials.

## *City of Santa Clara General Plan*

**Conservation Policies**

**Policy 5.10.1-P10** Promote the reduction, recycling and safe disposal of household hazardous wastes through public education and awareness and through an increase in hazardous waste collection events.

**Safety Goals**

**Goal 5.10.5-G1** Protection of life, the environment, and property from natural catastrophes and man-made hazards.

**Goal 5.10.5-G2** Adequate emergency preparedness plans.

**Goal 5.10.5-G3** Availability of emergency services in the event of a disaster.

**Goal 5.10.5-G4** City codes and regulations that are consistent with applicable regional, state, and federal regulations for safety.

**Safety Policies**

**Policy 5.10.5-P1** Use the City's Local Hazard Mitigation Plan as the guide for emergency preparedness in Santa Clara.

**Policy 5.10.5-P4** Identify appropriate evacuation routes so people can be efficiently evacuated in the event of a natural disaster.

**Policy 5.10.5-P22** Regulate development on sites with known or suspected contamination of soil and/or groundwater to ensure that construction workers, the public, future occupants, and the environment are adequately protected from hazards associated with contamination, in accordance with applicable regulations.

**Policy 5.10.5-P23** Require appropriate clean-up and remediation of contaminated sites.

**Policy 5.10.5-P24** Protect City residents from the risks inherent in the transport, distribution, use, and storage of hazardous materials.

**Policy 5.10.5-P25** Use Best Management Practices to control the transport of hazardous substances and to identify appropriate haul routes to minimize community exposure to potential hazards.

**Policy 5.10.5-P26** Survey pre-1980 buildings and abate any lead-based paint and asbestos prior to structural renovation and demolition, in compliance with all applicable regulations.

**Policy 5.10.5-P28** Continue to require all new development and subdivisions to meet or exceed the City's adopted Fire Code provisions.

**Policy 5.10.5-P29** Continue to refer proposed projects located within the Airport Influence Area to the Airport Land Use Commission.

**Policy 5.10.5-P30** Review the location and design of development within Airport Land Use Commission jurisdiction for compatibility with the Airport Land Use Compatibility Plan.

**Policy 5.10.5-P33** Limit the height of structures in accordance with the Federal Aviation Administration Federal Aviation Regulations, FAR Part 77 criteria.

## 4.4.4 IMPACTS AND MITIGATION MEASURES

### 4.4.4.1 Significance Criteria

In accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, the impact of the proposed project related to hazards and hazardous materials would be considered significant if it would:

- create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- 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;
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;
- be located on a site that is included on a list of hazardous materials sites compiled pursuant to government code section 65962.5 and, as a result, create a significant hazard to the public or the environment;

- for a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
- for a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

#### 4.4.4.2 Methodology

Given the residential and mixed-use nature of the proposed development, the analysis below is focused on the potential for any existing on- or off-site contamination to affect the future site uses. Project impacts are evaluated relative to the above standards of significance by utilizing information on existing hazards and hazardous materials provided by the ESAs and the Environmental Summary Report prepared by Aquifer Sciences, and the additional subsurface investigations performed by Aquifer Sciences.

In order to evaluate the risk to the future site users from contamination present in all media (soil, soil vapor, and groundwater) at the project site, environmental screening criteria set forth by the RWQCB for residential land use were used. As explained above, environmental screening criteria used include the San Francisco Bay Region RWQCB Environmental Screening Levels (ESLs). ESLs are guidelines for evaluation of potential environmental risks and are not enforceable regulatory criteria, and the presence of a chemical at concentrations in excess of a screening does not necessarily indicate adverse effects on human health or the environment, rather that additional evaluation is warranted (RWQCB 2013). Concentrations of chemicals detected in groundwater were also screened against the California Maximum Contaminant Levels (MCLs), which are regulatory standards for drinking water that apply to public water systems. MCLs were used to determine whether the discharge of dewatering water could adversely affect receiving waters.

### 4.4.4.3 Project Impacts and Mitigation Measures

**Impact HAZ-1:** **The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (*Less than Significant*)**

Although small quantities of hazardous materials would be used during project construction and operation, compliance with local, state, and federal regulations, as well as the implementation of a construction-phase stormwater pollution prevention plan (SWPPP) in compliance with National Pollutant Discharge Elimination System (NPDES) requirements, would minimize risks associated with the routine transport, use, or disposal of hazardous materials during project construction.

The proposed project consists of residential and commercial uses. During operation, these land uses do not generally involve the use, transport, or disposal of significant amounts of hazardous materials, including hazardous chemical, radioactive, and biohazardous materials. Furthermore, compliance with local, state, and federal regulations would minimize risks associated with the routine transport, use, or disposal of hazardous materials during project occupancy. As such, potential impacts from the routine transport, use, or disposal of hazardous materials during construction and operation of the proposed project are considered to be less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact HAZ-2:** **The proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (*Potentially Significant; Less than Significant with Mitigation*)**

As stated above, the project site is developed with a number of large warehouses, commercial buildings, and single- and multi-family homes. There are three large warehouse-style buildings, three single-story commercial buildings, six single-family homes, and one multifamily (duplex) complex (containing a total of 4 dwelling units) on the project site. The site has a long history of use. Since 1891, the project site has been used for industrial and residential purposes. As a result of the historical uses on the site, soil and groundwater contamination is present on the site.

As described above, underground fuel storage tanks (gasoline and diesel) were present on the project site in the past. Three underground storage tanks (USTs) received regulatory closure but residual

contamination remained on the site and is identifiable in soil and groundwater samples. Additionally, there is a metallic mass on the project site which could be an underground storage tank. There could be potential contamination around the metallic mass or on the automotive shop site. In addition, as noted above, TPH-diesel and TPH-motor oil were detected in nearly all of the soil samples taken on the site with many concentrations exceeding the residential ESLs. PCE at a concentration slightly above the residential ESLs but below the RSL was detected in one soil vapor sample taken in the vicinity of the former USTs in an area planned as an exterior courtyard. PAHs were detected in several locations along the eastern edge of the project site at 575 Benton Street. Specifically, Benzo(a)pyrene was detected above the ESLs in four borings on the site. Pesticides were detected in the two stockpiles behind the residence at 1104 Sherman Street, and the pesticide levels in the stockpiles exceeded the CHHSLs and ESLs for aldrin and dieldrin. In addition, several soil samples contained phenol at concentrations exceeding the ESL, and may be a minor environmental issue during redevelopment. Arsenic, cadmium, chromium, cobalt, lead, nickel, vanadium, and zinc were detected in some samples at concentrations exceeding the applicable regulatory guidelines. Finally, high concentrations of petroleum hydrocarbons (TPH-gasoline, TPH-diesel and TPH-motor oil) were detected in groundwater in the vicinity of the former underground storage tanks. Metals, including arsenic, molybdenum, and nickel, in excess of ESLs were detected in the groundwater on the project site (Aquifer Sciences 2015c and 2015d).

Potential impacts from exposure to the existing hazardous material contamination on the project site during construction as well as occupancy of the proposed project are evaluated below.

## *Project Site Construction Phase Impacts*

### On-Site Soil and Groundwater Contamination

Soil contamination and the presence of TPH-gasoline, TPH-diesel, TPH-motor oil, metals and VOCs in the groundwater at certain locations throughout the project site could pose a human health risk for the construction workers at the project site (Aquifer Sciences 2015c). This represents a potentially significant impact unless mitigated.

### Discharge of Dewatering Water

Given the depth of groundwater on the project site (approximately 16.5 to 32 feet below ground surface), groundwater could be encountered during excavation of the site, especially for the below-grade parking garage, installation of utilities, and elevator shafts, and dewatering could be required. The water extracted during dewatering could potentially contain petroleum hydrocarbons, associated VOCs and metals, and unless mitigated, disposal of water extracted during dewatering could affect receiving water

quality or the sanitary sewer treatment facility. This represents a potentially significant impact unless mitigated.

**Asbestos**

Due to the age of several structures on the project site, there is a potential for ACMs to be present. Materials classified as ACM contain greater than 1.0 percent of asbestos. Materials classified as trace ACM contains less than 1.0 percent but greater than 0.1 percent of asbestos. These materials are regulated under the Toxic Substances Control Act and National Emissions Standards for Hazardous Air Pollutants requirements), or as geological deposits, in which case they are typically regulated by standards established by the California Air Resources Control Board and regulated by the local air pollution control district standards.

Section 19827.5 of the California Health and Safety Code, adopted January 1, 1991, requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. The California Legislature has vested the BAAQMD with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement. BAAQMD is to be notified 10 days in advance of any proposed demolition or abatement work. The local office of the Cal/OSHA must be notified of asbestos abatement to be carried out. Pursuant to California law, the City of Santa Clara would not issue the required land use permit until the applicant has complied with the above notice requirements. Compliance with these regulations and procedures, already established as a part of the permit review process, would ensure that potential impacts of demolition due to asbestos would be less than significant.

**Lead-Based Paint**

Based on the age of several structures on the project site, there is the potential that lead may be present in the interior and exterior surfaces of the existing residences and buildings, including paint and glazing on ceramic tiles.

Demolition of the buildings as part of the proposed project would comply with Cal/OSHA Lead Construction Standard, Title 8, California Code of Regulation (CCR) 1532. Lead-based paint still bonded to the building material proposed for demolition would not require removal ahead of time. However, peeling, flaking, or blistering lead-based paint would need to be removed prior to demolition. The regulations and procedures established by Cal/OSHA would ensure that potential impacts from lead-based paint disturbance during demolition would be less than significant.

**Other Hazardous Building Materials**

Other hazardous materials are commonly found in building materials that may be affected during demolition and renovation activities associated with redevelopment include fluorescent lighting, electrical switches, heating/cooling equipment, and thermostats that can contain hazardous materials, which may pose a health risk if not handled and disposed of properly. The procedures established by the Metallic Discards Act of 1991 (California Public Resources Code, Sections 42160-42185) and other state and federal guidelines and regulations would ensure that potential impacts from disturbance of other hazardous building materials during construction would be reduced to a less than significant level.

## *Occupancy Phase Impacts*

**On-Site Environmental Constituents**

As described above, the project site contains a number of areas where soil and groundwater are impacted as a result of previous industrial or commercial land uses. Soil and groundwater sampling shows that the concentrations of some of the environmental constituents at certain locations within the project site exceed the residential ESLs, CHHSLs, and/or RSLs. Therefore, unless mitigated, exposure to this on-site contamination could adversely affect the health of the residential and non-residential populations that would occupy the site once the project is constructed. This would be a potentially significant impact unless mitigated.

**Off-Site Contamination**

There are several sites within a half mile radius that are listed as hazardous material sites with potential contamination. However, only two of the hazardous material sites (Guerrera's Automotive at 3305 The Alameda and Santa Clara University Property and Old Simas Service Station at 3290 The Alameda) are located upgradient from the project site and groundwater from these site would have the potential to affect the project site. However, SCVWD issued fuel leak site case closure for both of these sites. Therefore, these sites would not pose a risk to project site residents. The former laundry and cleaner operations at the Bill Wilson Center may have impacted the soil and soil vapor at the project site. The impact from off-site contamination to future residents and employees on the project site would be a potentially significant impact unless mitigated.

## *Off-site Utility Improvements Impacts*

Construction of off-site utilities to serve the project would involve trenching in the road right-of ways (ROW) of El Camino Real, Benton Street and The Alameda, generally in areas where trenching for

utilities has previously occurred. Although contamination is not known from these areas, it is possible that contamination from adjacent historic land uses could have affected the road ROW and, if encountered during construction, could result in the exposure of the public or construction workers to hazardous materials. This is considered a potentially significant impact unless mitigated.

**Mitigation Measures:**

To address the potentially significant impacts identified above for the project site, **Mitigation Measures HAZ-2a** through **HAZ-2c** would be implemented, which require the development and implementation of a site management plan or a similar response plan that includes protection of site users, including construction workers and post-development maintenance workers from exposure to impacted soil and groundwater through measures. The site management plan would reduce potentially significant human health risk impacts from contaminated soil and groundwater during construction and occupancy of the project site to a less than significant level. Furthermore, as noted in **Section 4.1, Air Quality**, in the unlikely event that an underground storage tank or soils contaminated with volatile organic compounds are exposed during construction, the project applicant will comply with BAAQMD Regulation 8, Rule 40, "Aeration of Contaminated Soil and Removal of Underground Storage Tanks," which limits the emissions of organic compounds from soil that has been contaminated by organic chemical or petroleum chemical leaks or spills and outlines procedures for controlling such emissions. In addition **Mitigation Measure HAZ-2d** would be implemented to address impacts from previously unknown hazardous materials encountered during utility construction in road ROWs.

**HAZ-2a** The project shall be developed under a project-specific site management plan or similar response plan approved by an agency of applicable jurisdiction, such as the RWQCB, that is protective of construction workers, the general public, the environment, and future site occupants from known and unknown environmental conditions that may be present at the site. The site management plan or similar response plan shall be designed and implemented under the oversight of an appropriately credentialed environmental professional (e.g., California licensed Professional Engineer), and shall require:

- implementation of a worker health and safety plan (HASP) covering project construction workers and post-construction maintenance workers and groundskeepers who may be potentially exposed to hazardous materials. At a minimum, the HASP shall comply with state and federal worker safety regulations and be protective of worker health consistent with state and federal guidelines. The HASP shall include measures such as training, signage, and personal protective equipment;

- The site management plan or similar response plan shall include health based goals, consistent with state and federal standards and guidance documents (taking into account the presence of naturally occurring constituents). These goals shall be achieved through one or more of the of the following or similar site management strategies or approaches: (1) excavation or extraction of impacted soil or groundwater and disposal in accordance with applicable regulations; (2) implementation of effective engineering controls (e.g., barriers, caps, onsite encapsulation, mechanical ventilation); (3) onsite treatment of soil or groundwater; or (4) implementation of institutional controls (e.g., land use covenants prohibiting the use of groundwater);

- procedures to provide notice to the City of Santa Clara Fire Department for the removal of USTs and comply with the substantive City requirements should an UST or other underground structure be discovered on the project site, and address any associated soil impacts;

- procedures for evaluating and discharging dewatering water; and

- provisions to visually inspect for staining soil underlying existing buildings for potential unknown residual environmental constituents, to stop work in the vicinity of such discovery until notice to the oversight agency and appropriately credentialed environmental professional has been provided, and direction for further action received.

**HAZ-2b** Prior to dewatering, the project applicant will obtain and comply with all applicable permits and requirements prior to the discharge of any groundwater to surface waters (storm drains) or sanitary sewers. Requirements may include treatment, monitoring, and reporting to ensure that the discharge meets the appropriate water quality objectives for the receiving waters.

**HAZ-2c** The metallic mass shall be removed under the jurisdiction of an appropriately credentialed environmental professional and agency of applicable jurisdiction, if the mass is determined to be an underground storage tank or other regulated subsurface structure. Previously unidentified soil contaminants associated with the mass, if any, shall be removed and properly disposed of at an appropriately permitted facility.

**HAZ-2d** If evidence of contaminated soil and/or groundwater, such as discolored soil, odors or oil sheen, is encountered during excavation and/or grading for off-site utility improvements,

the construction contractor shall stop work and immediately inform the Applicant and City staff. An appropriately credentialed (e.g., California licensed Professional Engineer) shall be contracted to conduct an on-site assessment. If the materials are determined to pose a risk to the public or construction workers, the environmental professional shall prepare and submit a site management plan to the appropriate agency and the project will comply with all federal, state, and local laws for the handling and disposal of contaminated soils and/or groundwater.

**Significance after Mitigation**: Less than significant

---

**Impact HAZ-3:** **The proposed project would not expose future project site residents to substantial risk associated with hazardous materials storage and use on nearby properties. (*Less than Significant*)**

The proposed project involves the construction of a mixed-use development that would include residential apartments. The new apartments would be located in an area where commercial and light industrial uses are currently present, some of which may involve the storage and use of hazardous materials. An accidental release of certain hazardous materials on these nearby properties could potentially affect the future site residents. An accidental release assessment was prepared by Baseline Environmental Consulting to determine whether there is a potential for one or more existing commercial and industrial facilities within 0.5 mile of the project site to have an accidental release that could endanger the health and safety of the future residents of the project site. The full report is presented in **Appendix 4.4.**

The Santa Clara Fire Department performed a records search of regulated facilities to determine whether there were any facilities within 0.5 mile of the project site boundary that are subject to CalARP regulations, described above. Based on the Santa Clara Fire Department's records search, there are no CalARP facilities within 0.5 mile of the project site boundary (BASELINE 2015). Therefore, an accidental release of stored hazardous materials from commercial/industrial facilities within 0.5 miles of the project would not be expected to endanger the health and/or safety of future residents on the project site. The impact would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact HAZ-4:** **The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (*Less than Significant*)**

The Santa Clara University is located directly to the south project site. No other schools are located within 0.25 mile of the project site, although St. Clare School is located just outside the 0.25-mile radius to the south. As discussed above, only small quantities of hazardous materials would be used on-site during construction of the proposed project and compliance with local, state, and federal regulations, as well as the implementation of a construction-phase SWPPP in compliance with NPDES requirements would minimize any potential for impacts to nearby schools. The operation of the proposed project does not involve any use that would result in hazardous emissions. The impact would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact HAZ-5:** **The proposed project is not located on a list of hazardous material sites subject to corrective action compiled pursuant to Government Code Section 65962.5 (Cortese List), but is listed on a number of other government databases and contains residual contamination that exceeds environmental thresholds. (*Potentially Significant; Less than Significant with Mitigation*)**

The project site is made up of a number of parcels, including the property at 3390 The Alameda. While that property is not listed on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5, it is listed on a number of other government databases including the historic Cortese list. The environmental cases addressing conditions at 3390 The Alameda were closed under regulatory oversite in 1995 and 2000. Therefore, the site is no longer part of the Cortese list. Nonetheless concentrations of residual environmental constituents exceed environmental thresholds. To address potential risk of exposure of project site residents and workers to residual conditions, **Mitigation Measure HAZ-5** requires the implementation of **Mitigation Measures HAZ-2a** and **HAZ-2c**. Therefore, with mitigation, the impacts from constructing the proposed project on this site would be reduced to a less than significant level.

**Mitigation Measures**:

**HAZ-5** Implement **Mitigation Measures HAZ-2a** and **HAZ-2c** as described above.

**Significance after Mitigation**: Less than significant

---

**Impact HAZ-6** **The proposed project would not result in a safety hazard to aircraft due to building construction or result in a safety hazard due to aircraft for people living or working on the site. (*Less than Significant*)**

There are no public or private airports located within the City of Santa Clara. However, the project site is located 0.5 miles from the Norman Y. Mineta San Jose International Airport in San Jose and is subject to the Airport's Comprehensive Land Use Plan (CLUP.). The project site is also located approximately 4 miles from Moffett Federal Airfield in Mountain View.

The identified flight paths and approaches for Moffett Federal Airfield are well away from the project site and would not result in a safety hazard for people living on the site. The flight paths of the nearby San Jose International Airport are adjacent to but not directly over the project site (Santa Clara County Airport Land Use Commission 2011). The project site is located in the Traffic Pattern Zone (TPZ) is that portion of the airport area routinely overflown by aircraft operating in the airport traffic pattern. The potential for aircraft accidents is relatively low and the need for land use restrictions is minimal (Santa Clara County Airport Land Use Commission 2011). Consequently, the aircrafts flying the area would not result in a safety hazard to people living or working on the project site. The impact would be less than significant.

The project site falls within the FAR Part 77 Surfaces 212 feet (above MSL) height restriction zone (Santa Clara County Airport Land Use Commission 2011). As the proposed structure would reach a maximum height of approximately 78 feet (approximately 150 feet above MSL), the proposed project would not exceed the 212-foot height restriction and is therefore compatible with the Airport's FAR Part 77 height restrictions.

FAA notification under FAR Part 77.9b may be required because the height of the proposed structure would extend into the imaginary surface extending outward and upward from the airport's runway. According to City of San Jose Airport Department planning staff, any construction or alteration within several miles of the airport that exceeds an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway requires FAA notification (Greene 2015; CFR §77.9(b)(1); CFR §77.9(e)). The proposed project is located approximately 4,200 feet from the edge of the nearest runway at San Jose International Airport. At this distance the airport's imaginary surface would extend across the project site at a height of 42 feet. As the proposed structure would be approximately 38 to 78 feet in height, it would extend into the zone and

because the proposed structure is not shielded by existing structures of greater or equal height. The project will comply with FAA notification requirements.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact HAZ-7:** **The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan nor would the proposed project expose people or structures to a significant risk of loss, injury, or death involving wildland fires. (*No Impact*)**

The project site is located in an urban area, and construction and operation of the proposed project would not substantially interfere with the operation of traffic along The Alameda, Benton Street, or El Camino Real. The project site is located in an extensively urbanized area at a substantial distance from the closest wildland areas. No impacts with regard to implementation of an emergency plan or wildland fire hazards would occur.

**Mitigation Measures**: No mitigation measures are required.

---

### 4.4.4.4 Cumulative Impacts and Mitigation Measures

**Cumulative Impact HAZ-1:** **The proposed project, in conjunction with other past, present and reasonably foreseeable future development, would not result in significant cumulative impacts related to hazardous materials. (*Less than Significant*)**

The proposed project's hazardous materials impacts, discussed above under **Project Impacts and Mitigation Measures,** focus on the use, transportation, storage, and disposal of hazardous materials and hazardous wastes during construction and occupancy of the proposed development. Construction-related hazardous materials impacts would generally be site-specific and limited to the duration of the construction activity, and would continue to be highly regulated under federal, state, and local regulations, and would therefore not result in a cumulatively considerable contribution to a significant cumulative impact. With respect to the use, storage, transportation, and disposal of hazardous materials during project occupancy, as a mixed-use, largely residential project, the proposed project would not involve the use of hazardous materials in substantial quantities. The other foreseeable development projects in the City, as listed in **Tables 4.0-1** and **4.0-2,** are also predominately redevelopment projects.

The majority of the nearby projects are residential which would use minimal hazardous materials which would not likely be sources of new substantial hazardous materials use. However some of the cumulative projects are industrial and commercial developments which could potentially use, store, transport, and dispose hazardous materials. However, these projects would also be required to comply with local, state, and federal hazardous materials laws which are designed to avoid and minimize adverse impacts on public health, safety, and the environment. Additionally, the City of Santa Clara Fire Marshall would oversee potential storage of hazardous materials. Each cumulative project has been or will be subject to environmental review and if significant impacts are identified, mitigation measures would be implemented to avoid or reduce the impacts. Furthermore, according to the City's General Plan EIR, with implementation of General Plan policies new development and redevelopment that occurs in areas with soil or groundwater contamination would not pose a significant hazard to people or the environment (CSC 2011). For the reasons presented above, the cumulative impact would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

## 4.4.5 REFERENCES

Aquifer Sciences, Inc. 2015a. Phase I Environmental Assessment Viso Property, Santa Clara, California. January 15.

Aquifer Sciences, Inc. 2015b. Phase II Environmental Assessment Viso Property, Santa Clara, California. January 5.

Aquifer Sciences, Inc. 2015c. Supplemental Phase II Environmental Assessment Mission Town Center Property, Santa Clara, California. March 24.

Aquifer Sciences, Inc. 2015d. Environmental Summary Report. Mission Town Center Property, Santa Clara, California. November 12.

Aquifer Sciences, Inc. 2015d. Soil, Soil Vapor, and Groundwater Sampling Data

Baseline Environmental Consulting. 2015. Technical Memorandum: Accidental Release Assessment, Mission Town Center Apartments, Santa Clara, California. 12 August.

City of Santa Clara (CSC). 2011. City of Santa Clara 2010–2035 General Plan Integrated Final Environmental Impact Report. January.

CSC. 2014. *City of Santa Clara 2010-2035 General Plan*. Adopted November 16, 2010. Amended December 2014.

County of Santa Clara, Department of Environmental Health. 2010. Fuel Leak Case Closure Santa Clara UN Property, 3290 The Alameda, Santa Clara, CA; Case No. 14-711. April 29.

http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/1386411368/C-07S1W02K02f.pdf

Department of Toxic Substances (DTSC). 2015a. Human Health Risk Assessment (HHRA) Note, HERO HHRA Note Number 3, October.

DTSC. 2015b. Preliminary Endangerment Assessment Guidance Manual, California, Revised. October.

DTSC. 2015c. Santa Clara Police Station Annual Report, February 5. http://www.envirostor.dtsc.ca.gov/regulators/deliverable documents/7445057511/020520150202.pdf

Langan Treadwell Rollo (LTR). 2015. *Preliminary Geotechnical Investigation, Mission Town Center Apartment Homes, Santa Clara, California*. February 3.

Regional Water Quality Control Board (RWQCB). 2013a. *Environmental Screening Levels,* California Regional Water Quality Control Board, Region 2, December 2013.

RWQCB. 2013b. *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, California Regional Water Quality Control Board*, Region 2. December.

Santa Clara County Airport Land Use Commission. 2011. Comprehensive Land Use Plan Santa Clara County Norman Y. Mineta San Jose International Airport. May 25.

Santa Clara Valley Water District (SCVWD). 1995. Underground Storage Tank Case Closure – Joe Amaral Mechanical, Gasoline Underground Storage Tanks, 3390 The Alameda, Santa Clara, CA; Case No. 071W02G01f. October 31. http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/6543197453/CLOS_L_1995-10-31.pdf

SCVWD. 2000a. Fuel Leak Case Closure – Guerrera's Automotive, 3305 The Alameda, Santa Clara, CA; Case No. 14-232. March 2. http://geotracker.waterboards.ca.gov/site_documents/7460850358/CLOS_L_2000-03-02.pdf

SCVWD. 2000b. Fuel Leak Case Closure – Paragon Mechanical Inc., 3390 The Alameda, Santa Clara, CA; Case No. 14-402. August 4. http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/9513232171/CLOS_L_2000-08-04.pdf

SCVWD. 2000c. Fuel Leak Case Closure – Old Simas Service Station, 3290 The Alameda, Santa Clara, CA; Case No. 14-273. October 23. http://geotracker.waterboards.ca.gov/site_documents/9217289566/CLOS_L_2000-10-23.pdf

SWRCB. 2012. Low-Threat UST Case Closure Policy. August.

US Environmental Protection Agency (EPA). Various dates. Risk Assessment Guidance for Superfund (RAGS), Volume 1, Human Health Evaluation Manual, Parts A through F, Washington, D.C. http://www2.epa.gov/risk/risk-assessment-guidance-superfund-rags-part

US EPA. 2015. Regional Screening Levels for Chemicals at Superfund Sites. June.

# 4.5 LAND USE AND PLANNING

## 4.5.1 INTRODUCTION

This section addresses the land use impacts of the proposed project, focusing in particular on the consistency of the proposed project with applicable local and regional land use policies. The proposed project is subject to the City's General Plan, the City's Climate Action Plan, and several regional plans, including the Plan Bay Area.

## 4.5.2 ENVIRONMENTAL SETTING

### 4.5.2.1 Existing Project Site Land Uses

The project site consists of 12 parcels. The address, assessor's parcel number, and existing land use for each parcel is provided in **Chapter 3.0 Project Description** (see **Table 3.0-1).** The project site is developed with approximately 101,207 gross square feet (gsf) of commercial and light industrial space including three large warehouse-style buildings and three single-story commercial buildings, about ten residential units (six single-family homes and one multi-family apartment building with 4 units) that total 9,426 gsf, parking lots, roadways (Fremont and Sherman Streets), site serving infrastructure, and landscaping.

### 4.5.2.2 Existing Adjacent Land Uses

As shown in **Figure 3.0-1** in **Section 3.0 Project Description**, the area surrounding the project site is fully developed and consists mainly of residential and commercial uses. A medical office building and single-family residential uses along Harrison Street are located directly adjacent to the north/northwest of the project site. In addition, commercial uses are located to the north across Harrison Street. An apartment complex and the Santa Clara Police Department headquarters are located to the east across El Camino Real. Single-family residential uses are located to the south across Benton Street while single-family residential uses, a residence hall, and an auto repair shop are located to the east across The Alameda.

Other major uses near the project site include Santa Clara University, located one block to the south, and the Santa Clara Transit Center, to the southeast across the intersection of El Camino Real and Benton Street.

### 4.5.2.3 Existing Land Use Designations and Zoning

The project site is currently designated Santa Clara Station Focus Area in the Santa Clara General Plan. Specifically, the portion of the project site located along El Camino Real is designated Santa Clara Station

High Density Residential (37-50 dwelling unit/acre [du/ac]) while the remainder of the site is designated Santa Clara Station Low Density Residential (8-18 du/ac).

The project site is currently zoned ML-Light Industrial; R1-6L-Single Family; R2-7L-Duplex; and CT-Thoroughfare Commercial.

#### 4.5.2.4 Adjacent Land Use Designations and Zoning

Land located immediately adjacent to the project site is also designated Santa Clara Station Focus Area in the Santa Clara General Plan. Specifically, land to the north is designated Santa Clara Station High Density Residential (37-50 du/ac), land to the east is designated Santa Clara Station Public/Quasi Public, and land to the south and west is designated Santa Clara Station Low Density Residential (8-18 du/ac).

Land to the north of the project site is currently zoned CT-Thoroughfare Commercial, R1-6L-Single Family, and R3-25D-Moderate-Density Multiple Dwelling while the land to the east of the project site is currently zoned B- Public, Quasi-Public, and Public Park or Recreation. Land to the south and west of the project site is generally zoning for residential uses with some public and commercial uses mixed in. Land to the south is currently zoned CT-Thoroughfare Commercial, R1-6L-Single Family; B-Public, Quasi-Public, and Public Park or Recreation, R2-7L-Duplex; and R3-36D-Medium-Density Multiple Dwelling while land to the west is currently zoned R1-6L-Single Family, PD-Planned Development, and CT-Thoroughfare Commercial.

### 4.5.3 REGULATORY SETTING

#### 4.5.3.1 Regional Plans

***Plan Bay Area***

In July 2013, the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) adopted Plan Bay Area, which includes the region's Sustainable Communities Strategy (SCS) and the 2040 Regional Transportation Plan (RTP). This is the nine-county region's first long-range plan to meet the requirements of Senate Bill 375, which calls on each of the state's 18 metropolitan areas to develop a SCS to accommodate future population growth and reduce greenhouse gas emissions from cars and light trucks.

The Jobs-Housing Connection Strategy of the Plan Bay Area "serves as the land-use element of the Draft Preferred Scenario" for the plan. The Jobs-Housing Connection Strategy creates a series of land use classifications for the Bay Area region which provide density, scale, and character "guidelines" for select

areas and corridors within each county. For high intensity, medium intensity, and moderate intensity areas, the density, scale, and character guidelines are established as regional policy (ABAG 2013).

However, unlike General Plan land use designations, only certain areas within each county are classified and given land use guidelines. These select classified portions, which together comprise the Jobs-Housing Connection Strategy's land use growth pattern, are "shaped" by "locally selected Priority Development Areas (PDAs), the region's core transit network, the Bay Area's network of open spaces and conservation land including Priority Conservation Areas (PCAs), and opportunities to increase access to job centers." PDAs are areas nominated by local jurisdictions as appropriate places to concentrate future growth because they are "served by transit supported by local plans to provide a wider range of housing options along with amenities and services to meet the day-to-day needs of residents in a pedestrian-friendly environment" (ABAG 2013).

### *Bay Area 2010 Clean Air Plan*

The Bay Area Air Quality Management District (BAAQMD) is the regional agency that regulates sources of air pollutants within the nine-county Bay Area region. The BAAQMD prepares clean air plans as required under state and federal law. The Bay Area 2010 Clean Air Plan (CAP), which is the latest CAP for the Bay Area, provides a comprehensive plan to improve Bay Area air quality and protect public health. The 2010 CAP defines a control strategy that the District and its partners will implement to: (1) reduce emissions and decrease ambient concentrations of harmful pollutants; (2) safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily impacted by air pollution; and (3) reduce greenhouse gas emissions to protect global climate.

### *Santa Clara County Congestion Management Program*

The Valley Transportation Authority (VTA) oversees the Santa Clara County Congestion Management Program (CMP), which was last updated in June 2003. State legislation requires that all urbanized counties in California prepare a CMP to obtain each county's share of gas tax revenue. The CMP legislation requires that each CMP contain five mandatory elements: (1) a system definition and traffic Level of Service (LOS) standard element; (2) a multimodal performance measures element; (3) a transportation demand management and trip reduction element; (4) a land use impact analysis program element; and (5) a capital improvement program element. In addition to these mandated elements, the Santa Clara County CMP includes three additional elements: a Countywide transportation model and data base element, an annual monitoring and conformance element, and a deficiency plan element.

### *San Francisco Bay Regional Water Quality Control Plan*

The San Francisco Regional Water Quality Control Board (San Francisco RWQCB) regulates water quality in the San Francisco Bay Area region. The San Francisco RWQCB regulates surface water quality in the Bay Area via the Regional Water Quality Control Plan (Basin Plan), which was last amended in March 2015. The Basin Plan lists the beneficial uses which the San Francisco RWQCB has identified for local aquifers, streams, marshes, rivers, and the Bay, as well as water quality objectives, and criteria that must be met to protect these uses. The San Francisco RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to control water quality and protect beneficial uses. These can include permits for "point sources" such as wastewater treatment plants or "non-point sources" such as the urban runoff discharged by a City's stormwater drainage system.

## 4.5.3.2 Local Plans

### *City of Santa Clara 2010-2035 General Plan*

The City of Santa Clara 2010–2035 General Plan was most recently updated in December 2014. The General Plan is primarily a policy document that sets goals and policies concerning the community and gives direction to growth and development. In particular, the General Plan includes goals and policies for land use, community design, circulation, housing, public facilities, open space, recreation, conservation, noise, seismic and safety, sustainability, and historic preservation. These policies are designed to direct new development and redevelopment so that it meets City standards and is consistent with City goals. The City of Santa Clara is a charter city under California law, and is generally exempt from the requirement that its land use and development decisions be consistent with its General Plan.

The City of Santa Clara General Plan has identified nine Focus Areas that have the potential to define the City's identity. These areas include major corridors and destinations, new centers of activity around transit stations, and new residential neighborhoods. The project site is located within the Santa Clara Station Focus Area, which is a 244-acre area centered on the Santa Clara Transit Center. This area is intended to complement this transit use by replacing low intensity commercial and retail uses with larger scale, mixed use projects. The Santa Clara Transit Center is located 500 feet to the southeast of the project site.

### *City of Santa Clara Climate Action Plan*

The City of Santa Clara prepared and adopted a Climate Action Plan (CAP) on December 3rd 2013. The Santa Clara CAP establishes goals and emissions reduction measures that the City will implement to achieve the state-recommended GHG emissions reduction target of 15 percent below 2008 levels by the

year 2020. Additional information on the Santa Clara CAP is presented in **Section 4.5, Greenhouse Gas Emissions**.

### *Norman Y. Mineta San José International Airport Comprehensive Land Use Plan*

The project site is located within the Airport Influence Area (AIA) of the Norman Y. Mineta San José International Airport, as defined by the Comprehensive Land Use Plan (CLUP) adopted by the Santa Clara County Airport Land Use Commission (ALUC) on May 25, 2011. The CLUP provides for orderly growth of the area surrounding the airport. The plan is intended to minimize the public's exposure to excessive noise and safety hazards and includes policies that place noise, height, and land use restrictions on property located within the airport's AIA.

### *City of Santa Zoning Ordinance*

The City of Santa Clara's Zoning Ordinance is Title 18 of the Code of the City of Santa Clara. The Zoning Map for the City of Santa Clara outlines specific zoning districts for residential, commercial, industrial, and mixed uses. The Zoning Ordinance provides specific regulations governing permitted uses, lot areas, lot widths, yards, building heights, and other important features to guide development within the zoning districts.

## 4.5.4 IMPACTS AND MITIGATION MEASURES

### 4.5.4.1 Standards of Significance

In accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, the impact of the proposed project related to land use and planning would be considered significant if it would:

- physically divide an established community;
- conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect; or
- conflict with any applicable habitat conservation plan or natural community conservation plan.

### 4.5.4.2 Methodology

To determine the potential for the proposed project to result in conflicts with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect, the proposed project's consistency with the plan's goals and policies was evaluated.

### 4.5.4.3 Project Impacts and Mitigation Measures

**Impact LU-1:** **The proposed project would not physically divide an established community. (*Less than Significant)***

In order to facilitate development of the proposed project, the vacation of the portions of Sherman and Fremont Streets that traverse the project site is proposed. The portions of the streets to be vacated on the project site primarily provide access to existing buildings and uses presently located on the site. Sufficient access to surrounding uses for vehicles is provided by The Alameda, Benton Street, and El Camino Real. The proposed vacation of portions of Sherman and Fremont Streets will not physically divide the surrounding neighborhood by reducing accessibility by vehicles or pedestrians or by reducing access to any existing uses around the project site. This impact is less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact LU-2:** **The proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. (*Less than Significant)***

## *City of Santa Clara General Plan*

**Consistency with the General Plan Land Use Designation**

The project applicant proposes to demolish the existing buildings on the project site and construct a high-intensity, mixed-use development consisting of 385 rental apartment units and an overall site density of approximately 67 dwelling units per acre. The project also includes approximately 27,000 sf of retail space and 6,000 square feet of conditioned amenity space and 4,000 square feet of leasing space.

The City of Santa Clara 2010-2035 General Plan land use designation for the project site is Santa Clara Station Focus Area. Specifically, the portion of the project site located along El Camino Real is designated Santa Clara Station High Density Residential (37-50 dwelling unit/acre [du/ac]) while the remainder of the site is designated Santa Clara Station Low Density Residential (8-18 du/ac). As the density of the proposed project is above the densities allowed for the project site, the project applicant is requesting a General Plan Amendment (GPA) to change the land use designations on the project site to Very High Density Residential (51-90 du/ac). The following text is proposed to be added to Section 5.2.2 of the General Plan defining this land use designation;

*Very High Density Residential*

*This classification is intended for residential development at densities ranging from 51 to 90 units per gross acre in the Santa Clara Station Focus Area. This density range is typically located in areas adjacent to major transportation corridors, transit mixed uses. Very High Density Residential development has an urban feel, with mid-rise buildings, structured or below-grade parking, and shared open space.*

Concerning the retail portion of the project which would be located along the Benton Street and El Camino Real frontages, the project applicant is seeking a GPA to include the following policy allowing limited neighborhood commercial within the Santa Clara Station Very High Density Residential land use designation consistent with Figure 5.4-5 of the General Plan:

*5.4.3-P21* *Allow active retail uses at ground level on parcels designated Very High Density Residential within the Santa Clara Station Focus Area.*

With the approval of the amendments described above by the City, the residential and retail components of the proposed project would be consistent with the General Plan land use designation for the project site.

**Consistency with General Plan Goals and Policies**

The proposed project will replace lower density residential uses and lower intensity light industrial and commercial uses with a large scale mixed use project in support of the vision for the Santa Clara Station Focus Area. The proposed project is intended to maximize residential development within walking distance of the Santa Clara Station. In addition, the proposed project would include pedestrian-oriented retail on Benton Street and El Camino Real. The proposed retail component will maintain the vision of the Focus Area by providing the area with pedestrian-oriented retail uses. Proposed retail tenants include, but will not be limited to, restaurants, specialty clothiers, technology products, and business service centers. The proposed ground-floor retail components of the proposed project will encourage pedestrian-oriented retail uses to serve new residential development, station visitors, and area employees. Finally, the proposed project will also help address the City's longstanding jobs/housing imbalance.[1] A detailed analysis of the proposed project's consistency with applicable General Plan mixed-use land use policies and Santa Clara Station Focus Area policies is provided in **Table 4.5-1, General Plan Consistency**

1 See the 2010-2035 Santa Clara General Plan Final Environmental Impact Report, Sec. 4.2.5.5 (p. 125), which states that "the level of job growth [in the City of Santa Clara] will continue to out-pace housing development within the City, continuing the City's long-standing jobs/housing imbalance."

**Analysis**. In addition, as the proposed project is located near existing residential areas, the table also provides a detailed analysis of the project's consistency with applicable General Plan transition policies.

**Table 4.5-1**
**General Plan Consistency Analysis**

| Applicable Policies | Project Consistency |
|---|---|
| **Mixed Use Land Use Policies** | |
| 5.3.4-P2: Encourage mixed-use development in proximity to employment centers and residential neighborhoods throughout the City. | **Consistent**. The proposed project is a residential/mixed-use project and is located proximate to employment centers and residential neighborhoods. Residential neighborhoods are located immediately to the west and south of the project site while Santa Clara University, a major employment center in the City, is located one block to the south of the project site. |
| 5.3.4-P4: Require mixed-use development to meet the density and intensity specified in the land use classifications. | **Consistent**. The project applicant is requesting a General Plan Amendment (GPA) to change the land use designations for all project site parcels. If approved, the residential densities on the project site would be consistent with the density specified in the Santa Clara Station Very High Density Residential land use classification. |
| 5.3.4-P5: Encourage mixed-use development site planning and design to implement the elements illustrated in Figures 7.3-2 and 7.3-3, including street tree planting along all streets. | **Consistent**. The proposed project includes articulated facades, canopies, awnings, and numerous windows and doors along the street level to maximize transparency. Landscaping for the proposed project would include planting of new trees and shrubs. The project applicant would comply with the General Plan Policy 5.3.1-P10, which requires new development to "provide opportunities for increased landscaping and trees within the community, including requirements for new development to provide street trees at a minimum of 2:1 on or off-site replacement for trees removed as part of the project." |
| 5.3.4-P7: Use design techniques, such as stepping down building heights, and siting incompatible activities, such as loading and unloading, away from residential uses. | **Consistent.** The project design includes architectural pauses, recessed building facades, and style transitions, including a variation in massing, roof forms, and wall planes. The architectural features would result in a project that is cohesive with the architectural style of the surrounding properties. Vehicular loading zones would be located along El Camino Real and The Alameda, However, the loading zone along The Alameda would be located across the street from existing commercial uses and would be restricted only for the use of moving trucks operating during daytime hours. |
| 5.3.4-P8: Encourage building heights of up to five stories in large mixed-use developments along arterial street frontages, with the potential for taller buildings north of the Caltrain corridor. | **Consistent**. Proposed building would be up to 78 feet tall (five stories) near the intersection of Benton Street and The Alameda and up to 38 feet tall (three stories) along The Alameda and El Camino Real near the intersection of Harrison Street and El Camino Real. |
| 5.3.4-P9: Encourage ground-level windows and building entries that support a visual connection to activities. | **Consistent**. The proposed project would include ground-level windows and entries along the El Camino Real, Benton Street and The Alameda frontages that would support a visual connection to activities. |
| 5.3.4-P10: Require parking to be substantially below-grade or in structures with active uses along streets. | **Consistent**. Parking would be located in a six level parking structure (one level below grade) at the center of the project site. Residential units would be arranged around the central parking structure and the proposed retail uses would be located at street level along Benton Street and El Camino Real. |

| | |
|---|---|
| 5.3.4-P11: Foster active, pedestrian-oriented uses at the ground level, such as retail shops, offices, restaurants with outdoor seating, public plazas or residential units with front stoops, in mixed-use development. | **Consistent**. The proposed mixed-use project includes approximately 27,000 gross square feet of ground floor retail uses along Benton Street and El Camino Real. Uses could include restaurants ranging from sit down to "fast casual," coffee shops, dessert stores, clothing, service retail, day spas, specialty retail, bicycle shops, and wellness centers. Outdoor seating areas would be developed along Benton Street and El Camino Real. In addition, a public plaza with outdoor seating would be located at the corner of Benton Street and The Alameda while another public plaza with outdoor seating would be located at the corner of Benton Street and El Camino Real. Finally, ground-floor apartment units along The Alameda would have doorway and stoops that open directly to the street. |
| 5.3.4-P12: Prioritize pedestrian-oriented streetscape and building design in mixed-use development, including features such as wider sidewalks, street furniture, specialty planters, signage, public art, street trees, special paving materials, decorative awnings, enhanced entrances, colors, variety of materials and textures and distinctive building massing and articulation. | **Consistent**. The massing of structure along Benton Street and El Camino Real would be oriented to the street level and the sidewalks along Benton Street, El Camino Real, and The Alameda would be widened to increase pedestrian activity. Street trees, planters and decorative awnings would also be provided along Benton Street and El Camino Real to be more pedestrian friendly. |
| 5.3.4-P13: Encourage pedestrian linkages in mixed-use areas through measures such as enhanced lighting, curb bulb-outs, mid-block pedestrian crossings, pedestrian "refuge" areas in planted medians and pedestrian-oriented building frontages. | **Consistent**. The proposed project would provide mid-block pedestrian crosswalks at the corner of Benton and Sherman Streets and a mid-block pedestrian crosswalk at the corner of The Alameda and Fremont Street. Sidewalks along Benton Street, El Camino Real, and The Alameda would be widened to increase pedestrian activity. Other pedestrian friendly features along these pathways would include outdoor seating, street trees, and shade structures. Finally, lighting would be installed along walkways and in parking lots to create a safe nighttime environment that is conducive to walking. |
| **Santa Clara Station Focus Area Goals and Policies** | |
| 5.4.3-P2: Maximize residential development within walking distance of the Station, particularly on the northeast side of the Caltrain corridor. | **Consistent**. The project would place 385 dwelling units (approximately 67 du/acre) within 500 feet of the Santa Clara Station. |
| 5.4.3-P3: Provide pedestrian-oriented ground floor uses and a network of parks and public spaces to serve both residential and non-residential development. | **Consistent**. Pedestrian-oriented ground floor retail uses would be provided along Benton Street and at the corner of Benton Street and El Camino Real. Public outdoor open spaces would also be located at the corner of Benton Street and The Alameda and the corner of Benton Street an El Camino Real. |
| 5.4.3-P5: Provide approximately of 7.0 acres of publicly accessible open space within the area designated for residential and/or commercial uses. | **Consistent**. . The project would provide 0.15 acres of publically accessible open space. Additionally, a payment of development fees due in lieu of land dedication, minus the maximum credit of 50 percent for eligible onsite parkland recreational elements, would be required. |
| 5.4.3-P6: Provide pedestrian-oriented retail uses to serve new residential development, Station visitors and area employees. | **Consistent**. Pedestrian-oriented retail uses would be provided along Benton Street and at the corner of Benton Street and El Camino Real. |
| 5.4-3-P7: Provide appropriate transition between new development and adjacent uses consistent with General Plan Transition Policies. | **Consistent**. As discussed in further detail below (see Transition Goals and Policies), the structure along The Alameda would be set back 17 to 24 feet from the street and the height of the structure would be reduced to 38 feet (3 stories) to be compatible with the existing residential neighborhood to the west. In addition, enhanced streetscape design consisting of street trees and landscaping along Benton Street would soften the edge between the proposed project and existing residential neighborhoods to the south. |

| | |
|---|---|
| 5.4.3-P9: Encourage streetscape design with street trees, wider sidewalks, pedestrian-oriented lighting, curb bulb-outs and special paving and/or striping within the Focus Area to emphasize accessibility. | **Consistent**. Streetscape design along Benton Street, El Camino Real and the Alameda would include street trees. The sidewalks along Benton Street, El Camino Real, and The Alameda would also be widened and would feature accent paving. |
| 5.4.3-P10: Orient building street frontages to the ground level with residential entries, stoops and windows, and commercial store fronts. | **Consistent**. Apartment units on the ground-floor along The Alameda would have residential entries and stoops along the street frontage. Large windows would be incorporated into the commercial store fronts along El Camino Real and Benton Street. |
| 5.4.3-P11: Encourage parking consolidation, alternate parking arrangements or reduced parking ratio within the Santa Clara Station Focus Area to promote the use of alternate transportation modes.<br>5.4.3-P12: Minimize surface parking by requiring below-grade or structured parking facilities with active uses along street frontages. | **Consistent**. Parking would be located in a six level parking structure (one level below grade) at the center of the project site. Residential units would be arranged around the central parking structure and the proposed retail uses would be located at street level along Benton Street and El Camino Real. All parking would be provided according to code. |
| 5.4.3-P14: Encourage alternative modes of travel to and from the Station, including biking, walking and shuttles. | **Consistent**. The project proposes an upgrade to the signalized intersection of El Camino Real and Benton Street to facilitate access to the station that would encourage walking. The upgrade would consist of extending the curb at the northwest corner of Benton Street and El Camino Real. The extended curb would reduce pedestrian crossing distances across El Camino Real and Benton Street as well as reduce southbound right turn speeds due to the tighter turn radius on that corner. |
| **Transition Goals and Policies** | |
| 5.5.2-P1: Require that new development incorporate building articulation and architectural features, including front doors, windows, stoops, porches or bay windows along street frontages, to integrate new development into existing neighborhoods. | **Consistent**. Proposed project would include ground-level windows and entries along Benton Street and The Alameda frontages. Ground-floor apartment units along The Alameda would also have doorway and stoops that open directly to the street. Finally, the structure along The Alameda would be designed in the Craftsman style to better integrate the project with the Craftsman style homes located in the existing residential neighborhood to the west. |
| 5.5.2-P2: Implement design review guidelines for setback, heights, materials, massing, articulation and other standards to support Transition Policies and promote neighborhood compatibility. | **Consistent**. The structure would be set back 17 to 24 feet from The Alameda and the height of the structure would be reduced to 38 feet (3 stories) to be compatible with the existing residential neighborhood to the west. |
| 5.5.2-P3: Implement site design solutions, such as landscaping and increased building setbacks, to provide a buffer between non-residential and residential uses. | **Consistent**. The structure would be set back 17 to 24 feet from The Alameda to create a buffer zone between the proposed project and the existing residential neighborhood to the west. |
| 5.5.2-P4: Provide adequate separation between incompatible land uses in order to minimize negative effects on surrounding existing and planned development. | **Consistent**. The proposed project consists of residential and retail uses, and is compatible with the surrounding area, which is entirely built out and consists of residential, commercial, and institutional uses. |
| 5.5.2-P5: Require that new development provide an appropriate transition to surrounding neighborhoods. | **Consistent**. The structure would be set back 17 to 24 feet from The Alameda and the height of the structure would be reduced to 38 feet (3 stories) to be compatible with the existing residential neighborhood to the west. The architectural features would result in a project that is cohesive with the architectural style of the surrounding properties. In addition, street trees and landscaping would be provided along this edge to soften the transition between the project and the nearby residential neighborhood. |
| 5.5.2-P6: Adjust new building height, scale and massing along the site perimeter abutting planned lower intensity uses. | **Consistent**. The height of the structure along the Alameda would be reduced to 38 feet (3 stories) to be compatible with the existing residential neighborhood to the west. |

| | |
|---|---|
| 5.5.2-P7: For buildings of three stories or greater, increase the setback of upper stories where they abut lower-intensity residential uses. | **Consistent**. The proposed project would consist of a three- to five-story structure that would range in height from approximately 38 to 78 feet. Although no set backs are proposed for the upper stories, the portion of the structure nearest to the residential neighborhood to the west would only be three stories high and thus an increase in the set back of upper stories along this portion of the structure is not needed. |
| 5.5.2-P8: Encourage enhanced streetscape design and reduced building mass for non-residential uses located across the street from lower-intensity residential neighborhoods. | **Consistent**. Enhanced streetscape design, consisting of street trees and landscaping along Benton Street, would soften the edge between the proposed project and existing residential neighborhoods to the south. |
| 5.5.2-P9: Improve pedestrian amenities, including sidewalks and bicycle paths, to promote neighborhood compatibility. | **Consistent**. Sidewalks along Benton Street, El Camino Real, and The Alameda would be widened to increase pedestrian activity. The proposed project would also provide a Class II bicycle lane along Benton Street and a Class III bicycle route along The Alameda. |
| 5.5.2-P10: Encourage below-grade parking to accommodate parking demand in order to reduce overall building height and massing in transition areas. | **Consistent**. Parking would be located in a six level parking structure (one level below grade) that would be wrapped by the building. |
| 5.5.2-P11: Restrict loading, trash and noise-generating activities to protect adjacent residential uses. | **Consistent.** As discussed above, vehicular loading zones would be located along El Camino Real and The Alameda, However, the loading zone along the Alameda would be located across the street from existing commercial uses and would be restricted only for the use of moving trucks operating during daytime hours. All thrash collecting facilities will be located within the interior of the proposed structure and thus will be screened from neighboring residential uses. As discussed in **Section 4.6, Noise**, project generated traffic would not substantially increase noise levels at nearby noise-sensitive land uses, and while noise from mechanical equipment on the roof of the proposed structure has the potential to negatively affected nearby residential and commercial properties, mitigation is proposed to reduce this impact to a less than significant level. |
| 5.5.2-P12: Screen loading and trash areas to preclude visibility from off-site and public streets. | **Consistent**. All thrash collecting facilities would be located within the interior of the proposed structure and thus will be screened from neighboring uses. |
| 5.5.2-P13: Offer opportunities for developed neighborhoods to initiate planning efforts to provide a vision for future streetscape design and neighborhood character. | **Consistent**, The project applicant held several meetings with residents from the surrounding neighborhoods to discuss details of the proposed project, including the size, massing, and architectural style of the project and transition zones between the project and existing uses. These discussions have resulted in project design changes to better integrate the project with existing neighborhoods. |

## *City of Santa Clara Zoning Code*

The project site is currently zoned ML-Light Industrial; R1-6L-Single Family; R2-7L-Duplex; and CT-Thoroughfare Commercial. As described above, the proposed project consists of a mix of residential and commercial uses, and therefore would be inconsistent with the existing zoning. The project applicant is requesting a rezone of the project site to Planned Development to accommodate the proposed project. Should the rezone be approved by the City, the proposed project would be consistent with the zoning for the project site.

### *City of Santa Clara Climate Action Plan*

A detailed discussion of the project's consistency with the City's CAP is provided in **Section 4.3, Greenhouse Gas Emissions.** As discussed in **Section 4.3,** the proposed project would not conflict with the CAP, and the impact would be less than significant.

### *Plan Bay Area*

The proposed project is located within a PDA. Local jurisdictions choose a Place Type for each PDA, which provides a general set of guidelines for the character, scale, and density of future growth, consistent with the community vision for the area. The project site is located in "City Center" Place Type in the Plan Bay Area. Guidelines for land uses within areas designated City Center are limited to mid- and low-rise offices, apartments and condominiums, townhomes, and ground floor retail. New projects in this PDA must have a density of 50 to 150 dwelling units/net acre and/or a net FAR of 2.5. The proposed project will have a density of approximately 67 dwelling units/net acre, is a mid-rise apartment project with ground floor retail and is thus entirely consistent with the City Center designation. No conflicts with the Plan Bay Area would result, and the impact would be less than significant.

### *Bay Area 2010 Clean Air Plan*

A detailed discussion of the proposed project's consistency with the 2010 Clean Air Plan is provided in **Section 4.1, Air Quality**. As discussed in **Section 4.1**, the proposed project would not have an adverse effect on air quality during construction and operation. Therefore, the proposed project would not conflict with the 2010 Clean Air Plan, and the impact would be less than significant.

### *Santa Clara County Congestion Management Program*

A discussion of the proposed project's impacts to the local transportation system, including CMP-designated intersections, is provided in **Section 4.8, Transportation and Traffic**. As discussed in **Section 4.8**, the proposed project would result in a significant project-level impact and a significant cumulative-level impact at the intersection of Lafayette and Lewis Streets. However, this intersection is not a CMP intersection. None of the CMP facilities would be significantly affected by the traffic added by the proposed project. Therefore, the proposed project would not conflict with the CMP, and this impact would be less than significant.

### *San Francisco Bay Regional Water Quality Control Plan (Basin Plan)*

A discussion of the proposed project's potential impacts on water quality is provided in **Section 4.10, Other Topics**. As discussed in **Section 4.10**, with implementation of mitigation during construction and

adherence to National Pollution Discharge Elimination System (NPDES) requirements during construction and operation, implementation of the proposed project would not have an adverse effect on water quality. Therefore, the proposed project would not conflict with the Basin Plan, and this impact would be less than significant.

### *Norman Y. Mineta San José International Airport Comprehensive Land Use Plan*

As discussed above, the CLUP for the Norman Y. Mineta San José International Airport includes policies that place noise, height, and land use restrictions on property located within the airport's AIA. The airport's noise restriction area is defined by the airport's 65 dB CNEL noise contour. If a project is located within the 65 dB CNEL noise counter an acoustical analysis is required to demonstrate how residential units and schools have been designed to meet an interior noise level of 45 dB CNEL. As the project site is located outside the Airport's 65 dB CNEL noise contour boundary, an acoustical analysis is not required. The project site falls within the FAR Part 77 Surfaces 212 feet (above MSL) height restriction zone. As the proposed structure would reach a maximum height of approximately 78 feet above the ground surface, the proposed project would not exceed the 212-foot height restriction. Finally, the project site is located with the airport's Traffic Pattern Zone, which places no restrictions on residential uses within the zone. For these reasons, the proposed project would not conflict with the CLUP, and this impact would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact LU-3:** **The proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan. (*No Impact)***

The project site is not located within the portion of Santa Clara County that is covered by the Santa Clara Valley Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP). There are no other HCPs or NCCPs applicable to the project area. No conflicts with an HCP/NCCP, or other conservation plan would occur, and this impact would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

### 4.5.4.4 Cumulative Impacts and Mitigation Measures

**Cumulative Impact LU-1:** **The proposed project, in conjunction with other past, present and reasonably foreseeable future development, would not result in significant cumulative impacts related to land use and planning. (*Less than Significant*)**

The City of Santa Clara is predominately developed, and the planned development occurring in the City near the project site is largely redevelopment of previously developed parcels. Therefore, the approved and pending projects included in **Tables 4.0-1** and **4.0-2** would not substantially change the land uses in the project area. Furthermore, the addition of 385 residential units to the City of Santa Clara will help improve the City's jobs/housing balance. In addition, future development in the City of Santa Clara would be reviewed for consistency with the General Plan designations and policies by the City of Santa Clara, in accordance with the requirements of CEQA, the State Zoning and Planning Law, and the State Subdivision Map Act, all of which require findings of plan and policy consistency prior to approval of entitlements for development. For this reason, impacts associated with inconsistency of future development in the City with adopted plans and policies would not be significant. As shown in the analysis above, the proposed project would not conflict with any local or regional plans adopted for avoiding environmental impacts. The proposed project would not contribute to any cumulative land use impacts, and this impact would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

## 4.5.5 REFERENCES

Association of Bay Area Governments/Metropolitan Transportation Commission. 2013. *Plan Bay Area*. Adopted July 18.

Bay Area Air Quality Management District. 2010. *Bay Area 2010 Clean Air Plan.*

CSC. 2013a. *Zoning Ordinance of the City of Santa Clara.* August 20.

CSC. 2013b. *Santa Clara Climate Action Plan*. Adopted December 3.

CSC. 2014. *City of Santa Clara 2010-2035 General Plan*. Adopted November 16, 2010. Amended December 2014.

San Francisco Regional Water Quality Control Board. 1995. *San Francisco Bay Regional Water Quality Control Plan, as amended 2010.*

Valley Transportation Authority. 2003. *Santa Clara County Congestion Management Program.*

# 4.6 NOISE

## 4.6.1 INTRODUCTION

This section presents the fundamentals of environmental noise and vibration, the existing noise conditions at the project site and in its vicinity, the regulations that govern noise in the project area, the methodology used to conduct the noise impact analysis for the proposed project, and the potential stationary and mobile source noise impacts of the proposed project during its construction and occupancy. Where project noise impacts are found to be potentially significant, mitigation measures to reduce the magnitude of impacts are provided. The analysis in this section is based on an Environmental Noise Impact Report prepared for the proposed project by Charles M. Salter Associates, Inc. dated November 12, 2015 (Noise Impact Report). This report is included in **Appendix 4.6** of this Draft EIR**.**

## 4.6.2 FUNDAMENTALS OF NOISE AND VIBRATION

### 4.6.2.1 Noise

Noise is usually defined as unwanted sound. It is an undesirable by-product of society's normal day-to-day activities. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, and/or when it has adverse effects on health. The definition of noise as unwanted sound implies that it has an adverse effect on people and their environment.

Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). The human ear does not respond uniformly to sounds at all frequencies; for example, it is less sensitive to low and high frequencies than it is to the medium frequencies that more closely correspond to human speech. In response to the sensitivity of the human ear to different frequencies, the A-weighted noise level (or scale), which corresponds more closely with people's subjective judgment of sound levels, has been developed. This A-weighted sound level, referenced in units of dB(A), is measured on a logarithmic scale such that a doubling of sound energy results in a 3.0 dB(A) increase in noise level. In general, changes in a noise level of less than 3.0 dB(A) are not typically noticed by the human ear (US Department of Transportation 1980a). Changes in noise ranging from 3.0 to 5.0 dB(A) may be noticed by some individuals who are extremely sensitive to changes in noise. A greater than 5.0 dB(A) increase is readily noticeable, while the human ear perceives a 10.0 dB(A) increase in sound level to be a doubling of sound.

Noise sources occur in two forms: (1) point sources, such as stationary equipment or individual motor vehicles; and (2) line sources, such as a roadway with a large number of point sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6.0 dB(A) for each

doubling of distance from the source to the receptor at acoustically "hard" sites and 7.5 dB at acoustically "soft" sites (US Department of Transportation 1980a).[1] For example, a 60 dB(A) noise level measured at 50 feet from a point source at an acoustically hard site would be 54 dB(A) at 100 feet from the source and 48 dB(A) at 200 feet from the source. Sound generated by a line source typically attenuates at a rate of 3.0 dB(A) and 4.5 dB(A) per doubling of distance from the source to the receptor for hard and soft sites, respectively (US Department of Transportation 1980a).

Sound levels can also be attenuated by man-made or natural barriers (e.g., sound walls, berms, ridges), as well as elevational differences. Wall/berm combinations may reduce noise levels by as much as 10.0 dB(A) depending on their height and distance relative to the noise source and the noise receptor (US Department of Transportation 1980b). Sound levels may also be attenuated 3.0 to 5.0 dB(A) by a first row of houses and 1.5 dB(A) for each additional row of houses (Barry and Reagan 1978).

In addition, typical building construction attenuates outside noise by 17 to 30 decibels, depending on whether the windows are open or closed. The minimum noise attenuation provided by typical building construction in California is provided in **Table 4.6-1, Outside to Inside Noise Attenuation**.

**Table 4.6-1**
**Outside to Inside Noise Attenuation (dB(A))**

| Building Type | Open Windows | Closed Windows |
|---|---|---|
| Residences | 17 | 25 |
| Schools | 17 | 25 |
| Churches | 20 | 30 |
| Hospitals/Convalescent Homes | 17 | 25 |
| Offices | 17 | 25 |
| Theaters | 20 | 30 |
| Hotels/Motels | 17 | 25 |

*Source: Transportation Research Board, National Research Council, Highway Noise:* A Design Guide for Highway Engineers, *National Cooperative Highway Research Program Report 117.*

When assessing community reaction to noise, there is an obvious need for a scale that averages varying noise exposures over time and that quantifies the result in terms of a single number descriptor. Several scales have been developed that address community noise level. Those that are applicable to this analysis

1 Examples of "hard" or reflective sites include asphalt, concrete, and hard and sparsely vegetated soils. Examples of acoustically "soft" or absorptive sites include soft, sand, plowed farmland, grass, crops, heavy ground cover, etc.

are the Equivalent Noise Level (Leq), the Day-Night Noise Level (Ldn), and the Community Noise Equivalent Level (CNEL).

- Leq is the average A-weighted sound level measured over a given time interval. Leq can be measured over any period, but is typically measured for 1-minute, 15-minute, 1-hour, or 24-hour periods.
- Ldn is a 24-hour Leq with a "penalty" of 10 decibels added during the nighttime hours (10:00 PM to 7:00 AM), which is normally sleeping time.
- CNEL is another average A-weighted sound level measured over a 24-hour period. However, the CNEL noise scale is adjusted to account for some individuals' increased sensitivity to noise levels during the evening as well as the nighttime hours. A CNEL noise measurement is obtained after adding a "penalty" of 5 decibels to sound levels occurring during the evening from 7:00 PM to 10:00 PM, and 10 decibels to sound levels occurring during the nighttime from 10:00 PM to 7:00 AM.[2]

### 4.6.2.2 Vibration

Vibration of the air is called sound when it is within the frequency audible to the human ear, while vibration of materials other than air is called simply "vibration." Vibration that travels through the earth is referred to as groundborne vibration. Airborne vibration is caused by low-frequency sound (less audible to the human ear) that can excite building components and create a feeling of vibration.

Vibration may be composed of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hz. Most environmental vibrations consist of a composite, or "spectrum" of many frequencies, and are generally classified as broadband or random vibrations. The normal frequency range of most perceptible vibration generally ranges from a low frequency of less than 1 Hz to a high of about 200 Hz.

Vibration is often measured in terms of the peak particle velocity (PPV)[3] in inches per second (in/sec) and referenced as vibration decibels (VdB). The PPV descriptor is used in this Draft EIR to evaluate the potential for construction-generated vibrations to result in human response impacts and property damage. **Table 4.6-2, Human Response to Transient Vibration**, presents the human response to different levels of ground-borne vibration for transient events, which would be representative of vibration caused by most construction equipment. **Table 4.6-3, Human Response to Continuous Vibration**, presents the human response to different levels of ground-borne vibration for continuous events, which would be

---

2 The logarithmic effect of adding these penalties to the peak-hour Leq measurement results in a CNEL measurement that is within approximately 3 dB(A) (plus or minus) of the peak-hour Leq. California Department of Transportation, *Technical Noise Supplement; A Technical Supplement to the Traffic Noise Analysis Protocol*, October 1998, pp. N51-N54.

3 Particle velocity is the velocity of a particle (real or imagined) in a medium as it transmits a wave.

representative of vibration caused by machine or traffic. **Table 4.6-4, Effects on Buildings from Continuous Vibration**, provides a summary of the effects on buildings when exposed to continuous vibration.

**Table 4.6-2**
**Human Response to Transient Vibration**

| PPV (in/sec) | Human Response |
|---|---|
| 2.0 | Severe |
| 0.9 | Strongly perceptible |
| 0.24 | Distinctly perceptible |
| 0.035 | Barely perceptible |

*Source: Charles M. Salter Associates, Inc., 2015*

**Table 4.6-3**
**Human Response to Continuous Vibration**

| PPV (in/sec) | Human Response |
|---|---|
| 0.4 to 0.6 | Unpleasant |
| 0.2 | Annoying |
| 0.1 | Begins to annoy |
| 0.08 | Readily perceptible |
| 0.006 to 0.019 | Threshold of perception |

*Source: Charles M. Salter Associates, Inc., 2015*

**Table 4.6-4**
**Effects on Buildings from Continuous Vibration**

| PPV (in/sec) | Effect on Buildings |
|---|---|
| 0.4 to 0.6 | Architectural damage and possible minor structural damage |
| 0.2 | Threshold at which there is a risk of architectural damage to normal dwelling houses (houses with plastered walls and ceilings) |
| 0.1 | Virtually no risk of architectural damage to normal buildings |
| 0.08 | Recommended upper limit of vibration to which ruins and ancient monuments should be subjected |
| | Vibration unlikely to cause damage of any type |
| 0.006 to 0.019 | Vibration unlikely to cause damage of any type |

*Source: Charles M. Salter Associates, Inc., 2015*

Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is barely perceptible.

A number of studies have identified maximum vibration levels for preventing damage to historic or sensitive buildings. These maximum vibration levels are presented below in **Table 4.6-5, Maximum Vibrations Levels for Historic or Sensitive Buildings**.

**Table 4.6-5**
**Maximum Vibrations Levels for Historic or Sensitive Buildings**

| Description of Structure | Limiting PPV (in/sec) Transient Study (single event) | Limiting PPV (in/sec) Continuous (steady state) | Study |
|---|---|---|---|
| Class IV: construction very sensitive to vibration; objects of historic interest | 0.3 | 0.12 | Swiss Association of Standardization Vibration Damage Criteria |
| Historic and Sensitive Buildings | 0.2–0.5 | 0.12-0.25 | Konan Vibration Criteria |
| Historic and some old buildings | 0.5 | | Dowding Building Structure Vibration Criteria |
| Historic sites or other critical locations | 0.1 | | AASHTO Maximum Vibration Levels for Preventing Damage |
| Residential buildings, plastered walls | 0.2-0.3 | | AASHTO Maximum Vibration Levels for Preventing Damage |

*Source: Charles M. Salter Associates, Inc., 2015*

Finally, the Federal Transit Administration (FTA) has established methods for evaluating groundborne vibration levels generated by rail transit (e.g., freight, light rail) with respect to various land-uses. The FTA outline two methods, a "general assessment" based on frequency of events, and a "detailed assessment", which takes into account the 1/3-octave band frequency characteristics of each vibration event and compares it to a daytime and nighttime criterion. **Table 4.6-6, FTA Criteria – General Assessment**, below, includes the FTA criteria for ground-borne vibration when using the general assessment while **Table 4.6-7, FTA Criteria – Detailed Assessment**, below include the FTA's daytime and nighttime detailed assessment vibration criteria for residential and commercial uses.

**Table 4.6-6**
**FTA Criteria – General Assessment**

| Land Use Category | GBV Impact Levels (VdB re 1 micro-inch/sec)[1] | | |
|---|---|---|---|
| | Frequent Events | Occasional Events | Infrequent Events |
| Category 2: Residences and buildings where people normally sleep. | 72 | 75 | 80 |
| Category 3: Institutional land uses with primarily daytime use[2] | 75 | 78 | 83 |

*Source: Charles M. Salter Associates, Inc., 2015*
*1 Frequent events are defined as more than 70 vibration events of the same source per day. Occasional events are defined as between 30 and 70 vibration events of the same source per day. Infrequent events are fewer than 30 vibration events of the same source per day.*
*2 The institutional land use category was selected because it is the closest category to commercial uses.*

**Table 4.6-7**
**FTA Criteria – Detailed Assessment**

| Land Use Category | GBV Impact Levels (VdB re 1 micro-inch/sec) | |
|---|---|---|
| | Daytime | Nightime |
| Residential | 78 | 72 |
| Commercial | 84 | n/a |

*Source: Charles M. Salter Associates, Inc., 2015*
*Notes: The above criterion applies to each third octave-band frequency between 8 and 80 Hz.*

## 4.6.3 ENVIRONMENTAL SETTING

### 4.6.3.1 Project Site and Surrounding Land Uses

#### *Existing On-Site Improvements*

The project site is developed with approximately 101,207 gross square feet (gsf) of commercial and light industrial space, 10 residential units that total about 9,426 gsf, parking lots, roadways (Fremont and Sherman Streets), site serving infrastructure, and landscaping.

#### *Surrounding Land Uses*

The area surrounding the project site is fully developed and consists mainly of residential and commercial uses. A medical office building and single-family residential uses along Harrison Street are located directly adjacent to the north/northwest. In addition, commercial uses are located to north across Harrison Street. An apartment complex and the Santa Clara Police Department headquarters are located

to the east across El Camino Real. Single-family residential uses are located to the south across Benton Street while single-family residential uses, a residence hall, and an auto repair shop are located to the east across The Alameda. Other major uses in the area include Santa Clara University, located one block to the south, and the Santa Clara Transit Center which is located approximately 500 feet to the southeast.

### *Ambient Noise Sources*

Sources of noise audible on the project site include vehicular traffic on the nearby roadways.

### 4.6.3.2 Existing Noise Environment

To characterize the existing noise environment at the project site, five long-term continuous 48-hour (L1 through L5) and five short-term (15-minute) spot noise measurements at three locations (S1 through S3) were conducted between March 5 and March 10, 2015. The purpose of the measurements was to determine the ambient noise levels at the proposed setback distances and elevations of the project facades. The measurement locations are depicted on **Figure 4.6-1, Noise Monitoring Locations**. A summary of the acoustical measurements by locations is presented below in **Table 4.6-8, Monitored Noise Levels.**

**Table 4.6-8**
**Monitored Noise Levels**

| Monitor | Location | Measured $L_{dn}$ |
|---|---|---|
| L1 | Approximately 35 feet south of the centerline of Benton Street and approximately 115 feet west of the centerline of El Camino Real, 12 feet above grade. | 72 dB(A) |
| L2 | Approximately 55 feet west of the centerline of El Camino Real and approximately 370 feet north of the centerline of Benton Street, 12 feet above grade. | 75 dB(A) |
| L3 | Approximately 25 feet north of the centerline of Harrison Street and approximately 120 feet west of the centerline of El Camino Real, 12 feet above grade. | 66 dB(A) |
| L4 | Approximately 25 feet east of the centerline of The Alameda and approximately 110 feet south of the centerline of Fremont Street, 12 feet above grade. | 61 dB(A) |
| L5 | Approximately 30 feet north of the centerline of Benton Street and approximately 135 feet west of the centerline of Sherman Street, 12 feet above grade. | 69 dB(A) |
| S1 | Approximately 55 feet west of the centerline of El Camino Real and approximately 40 feet south of the centerline of Harrison Street, 5 feet above grade and 30 feet above grade. | 77 dB(A)/<br>72 dB(A)* |
| S2 | Approximately 60 feet west of the centerline of El Camino Real and approximately 30 feet south of the centerline of Benton street, 5 feet above grade and 30 feet above grade. | 76 dB(A)/<br>73 dB(A)* |
| S3 | Approximately 25 feet east of the centerline of The Alameda and approximately135 feet north of the centerline of Fremont St, 5 feet above grade. | 61 dB(A) |

*Source: Charles M. Salter Associates, Inc., 2015*

** - 5 feet above grade / 30 feet above grade*

The dominant noise source at the project site is street traffic – primarily from El Camino Real. During the measurements, there was no construction nearby, nor any other noises that may have significantly affected the noise level measurements.

### 4.6.3.3 Existing Vibration Environment

On March 18, 2015, vibration measurements were conducted at two distances setback from the centerline of the railroad located to the northeast of the project site. Location V1 was located approximately 440 feet from the centerline of the tracks (at the property line) and Location V2 was located approximately 520 feet from the centerline of the tracks (see **Figure 4.6-2, Vibration Measurement Locations**). Vibration levels were measured from 5 PM to 9 PM. The vibration levels of both freight and commuter rail passbys are shown below in **Table 4.6-9, On-Site Measured Vibration Data – Freight (Infrequent Passbys)**, and **Table 4.6-10, On-Site Measured Vibration Data – Commuter Rail (Frequent Passbys)**.

**Table 4.6-9**
**On-Site Measured Vibration Data – Freight (Infrequent Passbys)**

| Location | Measured Linear Vibration Levels (VdB re 1 micro-inch/sec) | Peak Vibration Frequency (Hz) |
|---|---|---|
| V1, 440′ from rail centerline | 68-71 | 6.3, 8, 10 |
| V2, 520′ from rail centerline | 65-69 | 6.3, 8, 10 |

*Source: Charles M. Salter Associates, Inc., 2015*

**Table 4.6-10**
**On-Site Measured Vibration Data – Commuter Rail (Frequent Passbys)**

| Location | Measured Linear Vibration Levels (VdB re 1 micro-inch/sec) | Peak Vibration Frequency (Hz) |
|---|---|---|
| V1, 440′ from rail centerline | 56-68 | 8, 10, 12.5 |
| V2, 520′ from rail centerline | 53-65 | 8, 10, 12.5 |

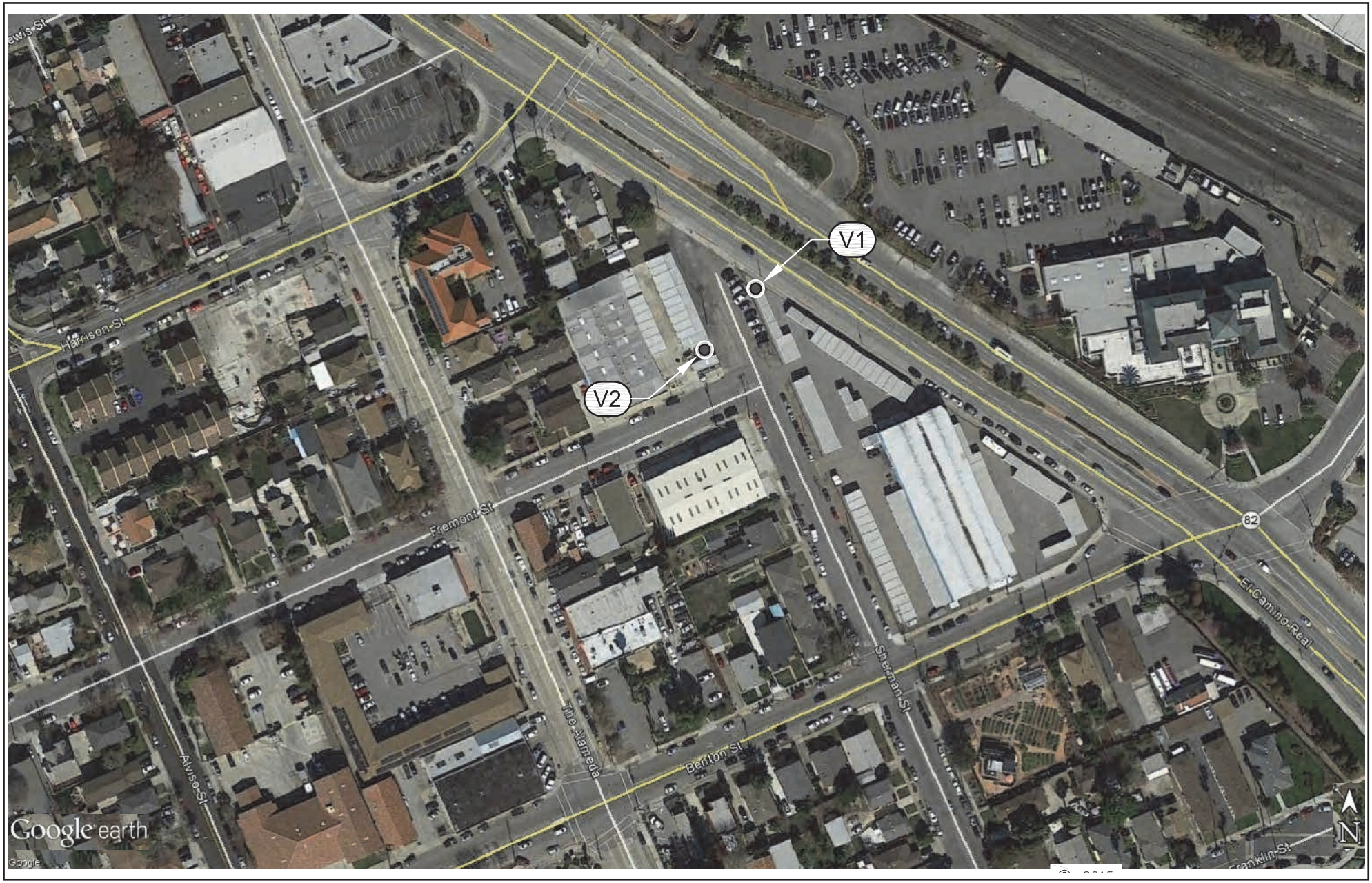
*Source: Charles M. Salter Associates, Inc., 2015*

**SOURCE:** Charles M. Salter Associates, Inc., 2015

FIGURE **4.6-1**

Noise Monitoring Locations

1176.003•10/15




**SOURCE:** Charles M. Salter Associates, Inc., 2015

FIGURE **4.6-2**

Vibration Measurement Locations

1176.003•10/15

## 4.6.4 REGULATORY CONSIDERATIONS

Regulations, plans, and policies that pertain to the noise conditions in the project area include (1) Title 24, Noise Insulation Standards of the California Code of Regulations, (2) the City of Santa Clara General Plan, and (3) the Santa Clara City Code. A description of these regulations, plans and policies, and how they relate to the proposed development, are provided below.

### 4.6.4.1 State Regulations

#### *Title 24, California Code of Regulations*

The California Noise Insulation Standards of 1988 (California Code of Regulations Title 24, Section 3501 et seq.) require that interior noise levels from the exterior sources not exceed 45 dB(A) Ldn/community noise equivalent level (CNEL)[4] in any habitable room of a multi-residential use facility (e.g., hotels, motels, dormitories, long-term care facilities, and apartment houses and other dwellings, except detached single-family dwellings) with doors and windows closed. Where exterior noise levels exceed 60 dB(A) CNEL/Ldn, an acoustical analysis is required to show that the building construction achieves an interior noise level of 45 dB(A) CNEL/Ldn or less.

In unacceptable interior noise environments, additional noise insulation features are typically needed to provide acceptable interior noise levels. These features include extra batting or resilient channels in exterior walls, double-paned windows, air conditioners to enable occupants to keep their windows closed without compromising their comfort, solid wood doors, and noise baffles on exterior vents. The best type of noise insulation is based on detailed acoustical analyses that identify all practical noise insulation features and that confirm their effectiveness.

### 4.6.4.2 Local Plans and Policies

#### *City of Santa Clara General Plan*

Chapter 5 (Goals and Policies) of the City of Santa Clara General Plan sets forth noise and land use compatibility standards for the proposed land uses (see **Figure 4.6-3, General Plan Noise Standards**). The City establishes an Ldn of 55 dB(A) as the upper end of the exterior noise level range considered "normally acceptable" with residential land uses. Where the exterior noise level is greater than an Ldn of 55 dB(A) Ldn and less than an Ldn of 70 dB(A), the design of the proposed project should include measures to reduce noise levels to "normally acceptable" levels. Exterior noise levels exceeding an Ldn of

---

4 Measurements are based on Ldn or CNEL.

70 dB(A) are considered "normally unacceptable" for residential land uses. The City establishes an Ldn of 65 dB(A) as the upper end of the exterior noise level range considered "normally acceptable" for commercial land uses and recreational uses. Furthermore, the interior noise level considered "normally acceptable" is an Ldn of 45 dB(A) for residential use, and 50 dB(A) for offices, retail, and less sensitive indoor spaces. General Plan goals and policies relevant to the proposed project are as follows:

**Noise Goals**

**Policy 5.10.6-G1** Noise sources restricted to minimize impacts in the community.

**Policy 5.10.6-G2** Sensitive uses protected from noise intrusion.

**Policy 5.10.6-G3** Land use, development and design approvals that take noise levels into consideration.

**Noise Policies**

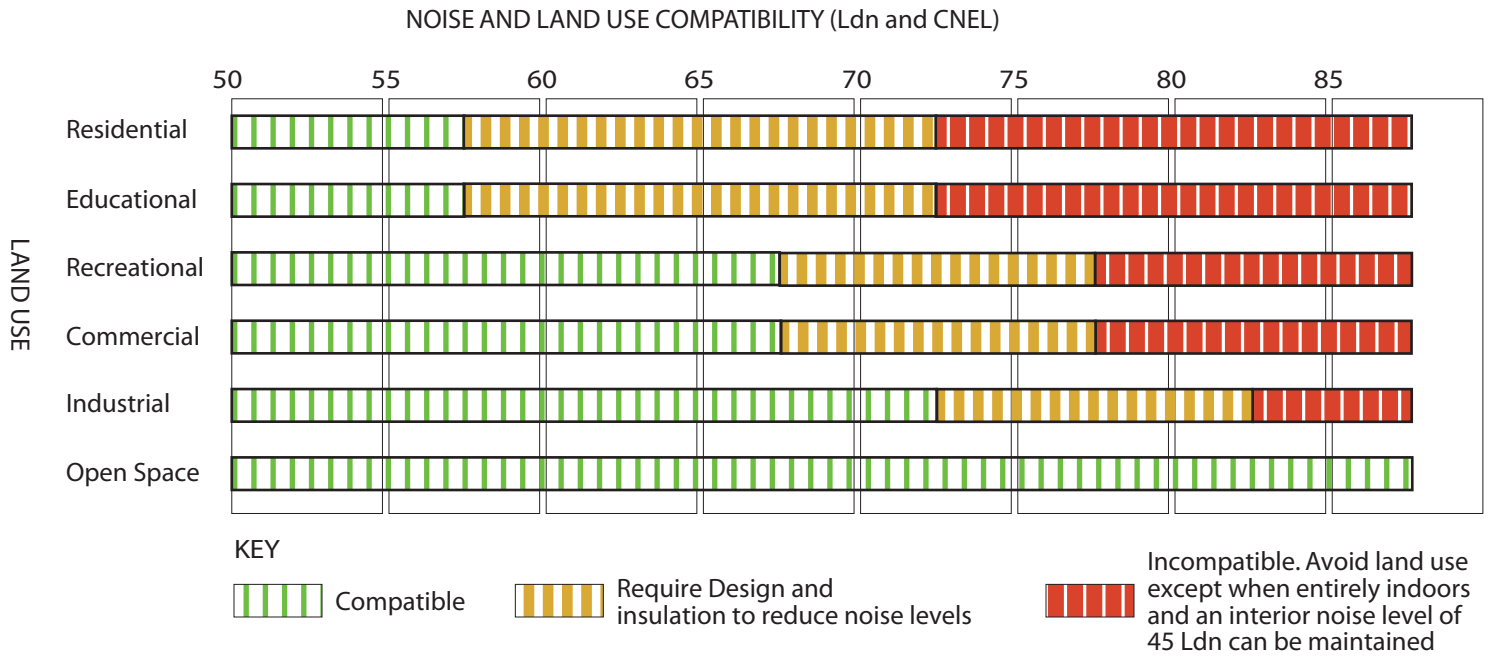
**Policy 5.10.6-P1** Review all land use and development proposals for consistency with the General Plan compatibility standards and acceptable noise exposure levels defined on Table 5.10-1.

**Policy 5.10.6-P2** Incorporate noise attenuation measures for all projects that have noise exposure levels greater than General Plan "normally acceptable" levels, as defined on Table 5.10-1.

**Policy 5.10.6-P3** New development should include noise control techniques to reduce noise to acceptable levels, including site layout (setbacks, separation and shielding), building treatments (mechanical ventilation system, sound-rated windows, solid core doors and baffling) and structural measures (earthen berms and sound walls).

**Policy 5.10.6-P4** Encourage the control of noise at the source through site design, building design, landscaping, hours of operation and other techniques.

**Policy 5.10.6-P5** Require noise-generating uses near residential neighborhoods to include solid walls and heavy landscaping along common property lines, and to place compressors and mechanical equipment in sound-proof enclosures.




**SOURCE:** City of Santa Clara, November 2013

FIGURE **4.6-3**

General Plan Noise Standards

1176.003•10/15

**Policy 5.10.6-P6** Discourage noise sensitive uses, such as residences, hospitals, schools, libraries and rest homes, from areas with high noise levels, and discourage high noise generating uses from areas adjacent to sensitive uses.

## *Santa Clara City Code (Noise Ordinance)*

Chapter 9.10 of the Santa Clara City Code governs noise and vibration within the City. According to Section 9.10.04:

> *It shall be unlawful for any person to operate or cause to allow to be operated, any fixed source of disturbing, excessive or offensive sound or noise on property owned, leased, occupied or otherwise controlled by such person, such that the sound or noise originating from that source causes the sound or noise level on any other property to exceed the maximum noise or sound levels which are set forth in Schedule A, as follows:*

***Schedule A – Exterior Sound or Noise Limits***

| *Receiving Zone (Zoning Category)* | *Time Period* | *Noise Level (dB(A))* |
|---|---|---|
| *Category 1 - Single-family and duplex residential (R1, R2)* | *Commencing at 7:00 AM and ending at 10:00 PM the following morning* | *55* |
| | *Commencing at 10:00 PM and ending at 7:00 AM the following morning* | *50* |
| *Category 2 - Multiple-family residential, public space (R3, B)* | *Commencing at 7:00 AM and ending at 10:00 PM the following morning* | *55* |
| | *Commencing at 10:00 PM and ending at 7:00 AM the following morning* | *50* |
| *Category 3 - Commercial Office (C, O)* | *Commencing at 7:00 AM and ending at 10:00 PM the following morning* | *65* |
| | *Commencing at 10:00 PM and ending at 7:00 AM the following morning* | *60* |

It should also be noted that the following are exempt from the above Ordinance limits per Section 9.10.070.

- The performance of emergency work, including the operation of emergency generators and pumps or other equipment necessary to provide services during an emergency.
- Warning devices necessary for the protection of public health, safety, and welfare including but not limited to, civil defense and fire sirens, or commercial, residential, or residential burglar alarms.
- Outdoor events which are conducted pursuant to a valid permit or license issued by the City relative to the staging of said events.
- City-owned electric, water and sewer utility system facilities, including but not limited to, receiving station equipment, substation equipment, generating plant equipment, water well station equipment, water booster pumping station equipment, and sewer lifting and pumping station equipment.

- Construction activities which occur during allowed hours, as otherwise specified in the Code.
- Firework displays authorized by permit from the City of Santa Clara Fire Department.
- The operation of heliports authorized by a conditional use permit granted by the City (Ord. 1588 § 1, 6-14-88. Formerly § 18-26.7).

Construction activities are not permitted within 300 feet of residentially zoned property except within the hours of 7:00 AM and 6:00 PM on weekdays and 9:00 AM and 6:00 PM on Saturdays. No construction is permitted on Sundays or holidays.

Section 9.10.050, which regulates vibration, states that it is unlawful for any fixed source of vibration to exceed the vibration perception threshold at the property line. Section 9.10.020 defines the "vibration perception threshold" as the minimum ground- or structure-borne vibrational motion necessary to cause a reasonable person of average sensitiveness to be aware of the vibration, by sensation, by touch or visual observation of moving objects. This section further defines the threshold as a motion velocity of 0.01 inch/second over the range of 1 to 100 Hertz.

## 4.6.5 IMPACTS AND MITIGATION MEASURES

### 4.6.5.1 Significance Criteria

The impacts of the proposed project related to noise would be considered significant if they would exceed any of the following Standards of Significance, in accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*:

- expose people to or generate noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies;
- expose people to or generate excessive groundborne vibration or groundborne noise levels;
- result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- result in exposure of people residing or working in the project area to excessive noise levels if the project is located within an area covered by an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport; or
- result in exposure of people residing or working in the project area to excessive noise levels if the project is located in the vicinity of a private airstrip.

CEQA does not define the noise level increase that is considered substantial. The City of Santa Clara uses the following criteria to determine whether the noise increase due to the project is substantial:

(1) an increase in the Ldn of 3 dB(A) or greater at noise-sensitive receptors would be considered substantial (i.e., significant) when projected noise levels would exceed the noise levels considered acceptable for the affected land use; and

(2) an increase of 5 dB(A) or greater would be considered substantial when projected noise levels would continue to meet the noise levels considered acceptable for the affected land use.

With respect to groundborne vibration generated by project construction, the groundborne vibration levels would be considered significant if they exceeded 0.24 in/sec PPV at the nearest sensitive receptors; vibration levels emanating from transient sources in excess of 0.24 in/sec PPV are distinctly perceptible and could result in annoyance. Human response to continuous vibration is readily perceptible at 0.08 in/sec PPV. As the existing structures directly adjacent to the project site are greater than 50 years old, groundborne vibrations that exceed 0.1 in/sec PPV at the nearest building structure would be considered significant as they could result in architectural damage.

With respect to exposure of project site residents to vibration from rail transit, FTA criteria identified in **Table 9.6-6** and **Table 9.6-7**, were used to evaluate the significance of the vibration impact.

### 4.6.5.2 Issues Not Discussed Further

There are no public or private airports located within the City of Santa Clara. However, the project site is located approximately 0.5 miles from the Norman Y. Mineta San Jose International Airport in San Jose. However, according to the Comprehensive Land Use Plan (CLUP) for the airport, the project site is not located in the facility's 65- to 75-decibel (dB) CNEL noise contour (SCC ALUC 2011). The project site is also located approximately 4 miles from Moffett Federal Airfield in Mountain View, and given this distance, the project site is located outside this facility's 65- to 75-decibel (dB) CNEL noise contour. For these reasons, implementation of the proposed project would neither impact nor be affected by significant aircraft noise. This issue is not discussed further in the analysis below.

### 4.6.5.3 Project Impacts and Mitigation Measures

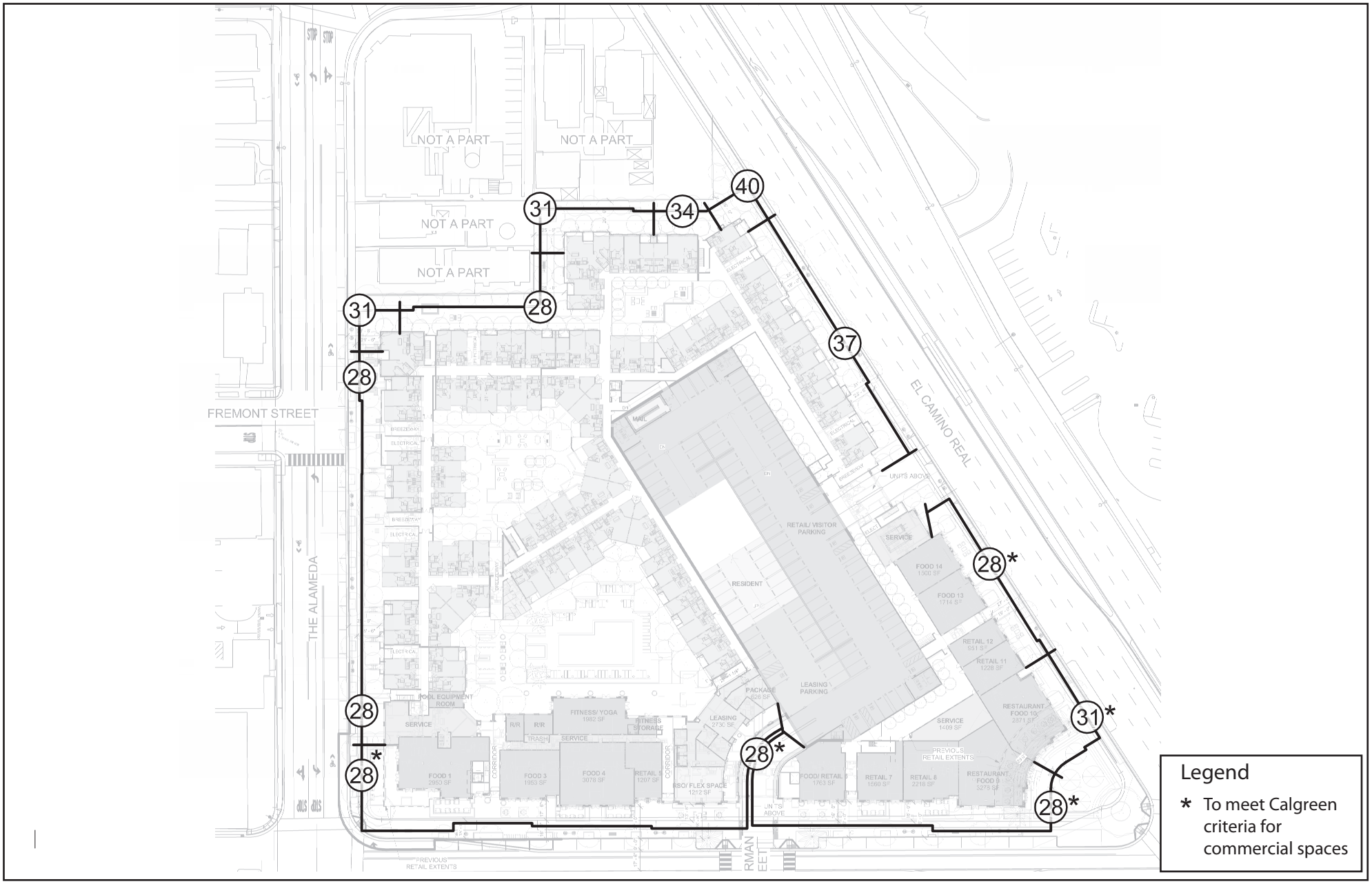
**Impact NOISE-1: Residential uses proposed at the project site would be exposed to exterior noise levels greater than those considered "compatible" per the City of Santa Clara General Plan, the State Building Code, and CALGreen. (*Potentially Significant; Less than Significant with Mitigation)***

The project design includes the construction of one large building structure with a parking garage in the center of the site, residential units and retail space wrapped around the garage, and three large interior courtyards, two located in the western half and one in the northern portion of the site. The plans indicate that residential units and commercial spaces will be located as close as 75 feet from the centerline of El Camino Real, which is the major noise source at the site. Residential units and commercial spaces would also be as close as 55 feet from the centerline of smaller roadways (e.g., Benton Street, The Alameda). The exposure of the project site residents to existing and projected noise levels along the surrounding streets is analyzed below.

#### *Residential Units*

The City of Santa Clara General Plan and California Building Code require that interior noise levels not exceed an Ldn of 45 dB(A) for residential spaces. In general, sound-rated windows and exterior doors are required when exterior noise levels exceed an Ldn of 60 dB(A) since standard construction with the windows open provides approximately 15 dB(A) of exterior-to-interior noise reduction. Based on on-site measurements and projected increases in ambient noise due to traffic increases on adjacent roadways, noise levels will exceed an Ldn of 60 dB at most residential facades which would not attenuate to 45 dB(A) Ldn inside the buildings with standard construction and windows open. This represents a potentially significant impact.

**Figure 4.6-4, Preliminary Estimated Recommended STC Ratings for Windows and Exterior Doors (Floors 1 and 2)**, and **Figure 4.6-5, Preliminary Estimated Recommended STC Ratings for Windows and Exterior Doors (Floors 3 to 5)**, provides the minimum sound transmission class (STC) ratings for exterior windows and doors that would be required to reduce interior noise levels to an Ldn of 45 dB(A) or less at residences. These values are preliminary and are anticipated to be adjusted as the project design is developed. Because windows must be closed to achieve the interior noise criteria, an alternate means of providing outside air (e.g., fresh-air exchange units, HVAC, Z-ducts, etc.) to habitable spaces is required for building facades exposed to an exterior noise level of 60 dB(A) Ldn, or greater. **Mitigation Measure NOISE-1a** is proposed to mitigate this impact to a less than significant level.

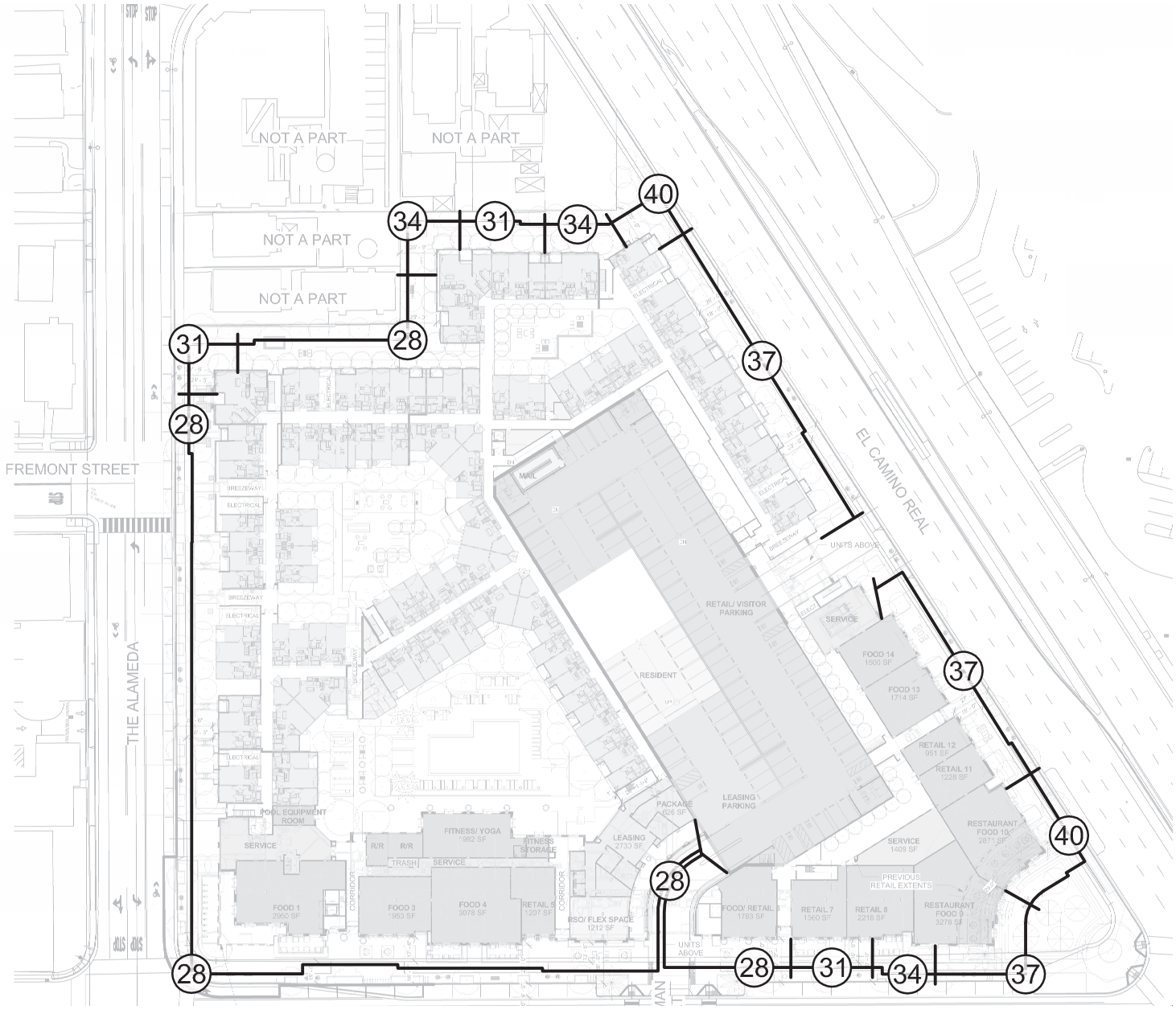



**SOURCE:** Charles M. Salter Associates, Inc., 2015

FIGURE **4.6-4**

Preliminary Estimated Recommended STC Ratings for Windows and Exterior Doors (Floors 1 & 2)

1176.003•10/15




**SOURCE:** Charles M. Salter Associates, Inc., 2015

FIGURE **4.6-5**

Preliminary Estimated Recommended STC Ratings for Windows and Exterior Doors (Floors 3 to 5)

1176.003•10/15

### *Outdoor-Use Areas within the Residential Complex*

The City of Santa Clara General Plan policies state that exterior noise levels are to be reduced to "normally acceptable" levels (Ldn 55 dB(A)) in primary outdoor-use areas within residential areas. All of the outdoor use areas within the residential portion of the site are completely shielded acoustically from adjacent roadways by the proposed structure, and the estimated Ldn noise levels would be at or below 55 dB(A) in these areas. This falls within the range of "normally acceptable" noise levels. The impact would be less than significant and no mitigation is needed.

Should a later design change result in the outdoor-use spaces near roadways being not completely shielded by the proposed structure, noise levels may be outside of the "normally acceptable" level. This represents a potentially significant impact and mitigation would be required. In the event outdoor-use spaces are not completely shielded by the proposed structure, **Mitigation Measure NOISE-1b** is proposed to mitigate this impact to a less than significant level.

**Mitigation Measures:**

**NOISE-1a** A project-specific acoustical analysis shall be prepared by a qualified acoustical consultant as the project design is refined to determine specific noise attenuation improvements (e.g., STC ratings, exterior wall construction, treatment of facade openings) that must be included in the project to reduce interior noise levels to meet the City of Santa Clara and the State Building Code criterion of an Ldn of 45 dB or less for residential developments. The results of the analysis and recommended ratings for windows and doors shall be submitted to the City Building Official for approval and approved prior to issuance of building permits. Forced air mechanical ventilation, satisfactory to the City Building Official, shall be considered where windows must remain closed in order to achieve the interior noise criteria.

**NOISE-1b** In the event that outdoor-use spaces are not completely shielded from adjacent roadways by the proposed structure, a project-specific acoustical analysis shall be prepared by a qualified acoustical consultant as the project design is refined to determine specific noise attenuation improvements (e.g., reconfiguration, sounds walls, glass screen, or other equivalent measures) that must be included in the project to reduce exterior noise levels to meet the City outdoor noise guidelines for primary outdoor-use spaces. The results of the analysis and recommended noise attenuation improvements shall be submitted to the City Building Official for approval and approved prior to issuance of building permits.

**Significance after Mitigation:** Based on an evaluation of the range of noise attenuation measures available to address this noise impact, the City has determined that the implementation of the above mitigation measures would reduce potential noise impacts at interior and exterior primary use spaces to a less than significant level.

---

**Impact NOISE-2:** **Residential and commercial uses proposed at the project site would not be exposed to groundborne vibration levels from rail sources in excess of assessment guidelines set forth by Federal Transit Administration. (*Less than Significant)***

The schedules for Caltrain, Capitol Corridor, and ACE show that the commuter trains pass near the project site more than 70 times during the day, meaning that they are subject to the FTA frequent event criterion of 72 VdB for residences and 75 VdB for institutional land uses[5]. As shown in **Table 4.6-11, On-Site Measured Vibration Levels**, all of the measured vibration levels are below the frequent event criteria established by the FTA for residential and commercial uses.

A schedule for freight trains along the rail line near the project site is not available. Based on on-site observations, freight train passbys are infrequent, and therefore freight train passbys are subject to the FTA infrequent event criterion of 80 VdB for residences and 83 VdB for institutional land uses. As shown in **Table 4.6-11,** all of the measured vibration levels at the project site were below FTA infrequent event criteria for residential and commercial uses.

In addition to the above, a detailed assessment, which takes into account the 1/3-octave band frequency characteristics of each vibration event and compares it to a daytime and nighttime criterion, was completed for the project. That analysis showed that all of the measured vibration levels are below the FTA's residential daytime and nighttime detailed assessment vibration criteria of 78 and 72 VdB, respectively, as well as the criterion of 84 VdB for institutional uses.

---

5 FTA does not provide a frequent event vibration criterion for commercial uses. In the absence of the criterion, the institutional land use category was selected because it is the closest category to commercial uses and involves receptors who are present in the buildings only during daytime hours.

**Table 4.6-11**
**On-Site Measured Vibration Levels**

| Location | Maximum Measured Commuter Train Vibration Level (VdB re 1 μin/sec) | Maximum Measured Freight Train Vibration Level (VdB re 1 μin/sec) |
|---|---|---|
| V1 | 68 | 71 |
| V2 | 65 | 69 |
| Residential Threshold | 72 | 80 |
| Institutional Threshold | 75 | 83 |
| Exceeds Threshold? | No | No |

*Source: Charles M. Salter Associates, Inc., 2015*

Based on the above, residential and commercial uses proposed at the project site would not be exposed to groundborne vibration levels from rail sources in excess of FTA assessment guidelines, and this impact is considered less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

**Impact NOISE-3: Project generated traffic would not substantially increase noise levels at noise-sensitive land uses. *(Less than Significant*)**

The relatively high traffic volumes on nearby El Camino Real and Benton Street are the primary sources of noise in the area. The traffic study prepared by Fehr and Peers dated October 13, 2015 for the proposed project provides traffic volumes at 11 study area intersections around the project site. The traffic volume information includes projected volumes for "Existing," and "Background (2020)" scenarios. Traffic volumes at all the study intersections were used to calculate the relative increase in traffic noise attributable to the proposed project. Since existing Ldn noise levels are above 60 dB(A) along the study roadways, a noise impact at noise-sensitive land uses would be considered significant if the traffic added by the proposed project would result in a noise level increase of 3 dB(A) Ldn or more.

As shown in the Traffic Noise Impact tables presented in Appendix B of the Noise Impact Report, the comparison of calculated noise levels for the Existing and Background (2020) conditions to the noise levels under Existing and Background (2020) plus project conditions shows that the proposed project would not substantially increase traffic noise levels at noise-sensitive receptors in the vicinity.

Specifically, intersection noise levels would increase by less than 1 dB(A) outside the project site under both scenarios, and therefore the impact would be considered less than significant.

Although project traffic added at intersections outside of the project site would not result in a substantial increase in noise levels, segments of some intersections on or adjacent to the project site (e.g., project access from El Camino Real and the north segment of the intersection of Benton and Sherman Streets) would experience a significant increase in noise levels (above 3 dBA) under the Existing plus project and Background plus project scenarios. However, these segments are internal to the project and would not have any impact on nearby properties. Furthermore, as indicated in Appendix B of the Noise Impact Report, the traffic volumes for these segments are far less than the surrounding roadways. Traffic along El Camino Real is significantly higher and will control noise levels at the project access driveway, resulting in a less than significant change in noise levels. The highest hourly traffic volume for the Benton and Sherman Street intersection is approximately 141 cars. This corresponds to a noise level of approximately 58 dB[6] at a distance of 30 feet from the Sherman Street centerline, which is less than the current noise levels measured at the site. Furthermore, the project is required to implement **Mitigation Measures NOISE-1a** and **NOISE-1b,** which would ensure that the interior noise levels meet the City of Santa Clara and the State Building Code criterion for interior noise levels in residential and commercial buildings. For these reasons, this impact is considered less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

**Impact NOISE-4:** **Noise from heating, ventilating, and air conditioning equipment for the proposed buildings may exceed the City's daytime and nighttime noise standards at existing neighboring residential properties and the daytime and nighttime noise standards at existing neighboring commercial properties. (*Potentially Significant; Less than Significant with Mitigation)***

It is anticipated that the commercial and residential components of the proposed project will be fully air-conditioned and that there will be heating, ventilating, and air-conditioning units that could be located in areas near adjacent property lines. Assuming exterior mechanical equipment or exhaust air openings will be largely confined to the roof of the building, they could be as close as 30 feet from the nearest residential property (3430 The Alameda) and as close as 80 feet from residential and commercial uses across Benton Street.

---

6 Calculation is based on the Federal Highway Administration (FHWA) traffic noise calculation and assumes a speed of 30 mph and 1 percent trucks.

At these distances, if a worst-case scenario of equipment located at the edge of the building with line-of-sight to adjacent residential uses is assumed, standard HVAC equipment would produce noise levels at the nearest residential uses that would exceed the City's 55 dB Leq daytime and 50 dB Leq nighttime noise standards for residential uses. Similarly, noise produced by standard HVAC equipment could exceed the City's 65 dB(A) Leq daytime and 60 dB(A) Leq nighttime noise standards for commercial land uses. This represents a potentially significant impact. **Mitigation Measure NOISE-4** is proposed to address this potentially significant impact.

**Mitigation Measures:**

**NOISE-4** Mechanical equipment shall be selected and designed to reduce impacts on surrounding uses to meet the City's Noise Ordinance requirements. A qualified acoustical consultant shall be retained to review mechanical noise as these systems are developed to determine specific noise reduction measures necessary to reduce noise to comply with the City's Noise Ordinance. Noise reduction measures could include but are not limited to selection of equipment that emits low noise levels and/installation of noise barriers such as enclosures and parapet walls to cut the line of sight between the noise source and the nearest receptors.

**Significance after Mitigation:** Implementation of the above mitigation measure would reduce the impact to a less than significant level.

---

**Impact NOISE-5:** **Noise generated by the proposed parking garage would not result in a substantial permanent increase in ambient noise levels at existing neighboring properties or at residential properties within the project site. (*Less than Significant*)**

Parking for the residential uses will be provided in a parking garage located in the center of the project site and wrapped by the proposed apartments and retail space. As the garage would be enclosed on all sides by the apartments, noise from the cars in the parking garage would not be a concern for residents of nearby homes to the north, west and south of the project site.

Regarding the effect of the proposed garage on the project site residents, the major noise sources attributed to parking garage activities are the sounds of vehicles as they drive by, noise generated when vehicles start their engines, door slams, and the sound of car alarms. Noise levels generated by slow-moving vehicles parking and door slams are not expected to significantly contribute to the ambient noise environment as faster moving traffic on local roadways is expected to dominate. Individual events such

as car alarms are impossible to predict and are not expected to occur on a regular basis. However, the parking structure would be enclosed and sufficiently insulated to prevent noise disturbances to surrounding on-site residences. For these reasons, the noise impact from the proposed parking garage would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

**Impact NOISE-6:** **Noise generated by construction activities on the project site would substantially increase noise levels at residential and other noise sensitive land uses in the vicinity of the project site. (*Potentially Significant; Less than Significant with Mitigation*)**

Construction activities would include use of heavy equipment such as excavators, graders, dozers, backhoes, and tractors for demolition, grading, utility trenching, and other activities, followed by construction of buildings, and landscaping. Heavy trucks would travel to and from and within the project site to move earthwork, equipment, and building materials. Smaller equipment, such as jack hammers, pneumatic tools, and saws could also be used throughout the construction phases. The noise associated with these activities would be generated within the entire project site and at off-site locations near any infrastructure improvements. The potential for construction noise to affect existing noise sensitive receptors near the project site is analyzed below.

Existing residences, commercial buildings, and other sensitive receptors located adjacent to the project site with direct line-of-sight to construction activities and construction traffic may be affected. This includes the closest off-site single-family residences located adjacent to the northern property line at 3450 The Alameda, 640 Harrison Street, and 610 Harrison Street. The construction noise associated with utility improvements, such as the installation of a new 72-inch storm drain along Benton Street and El Camino Real bordering the project site, extension of the recycled water line along Fremont Street, and installation of new water mains in The Alameda and Harrison Street, could also affect neighboring properties along those roadways. Potential construction noise impacts would vary with distance and shielding provided by existing buildings.

**Table 4.6-12, Mission Town Center Project Construction Noise Levels**, summarizes noise levels produced by construction equipment that will be used to construct the proposed project. Based on the construction phases and equipment shown in **Table 4.6-9**, noise levels generated during construction are expected to be up to 104 dB(A) at a distance of 10 feet, which is the approximate distance of the nearest residential property located to the north and up to 87 dB(A) at a distance of 70 feet, which is the approximate distance from nearby residential buildings across Benton Street to the street utility work along the project site frontage. At a distance of 50 feet, which is the approximate distance between the project site and the residential uses located across The Alameda to the west, noise levels are expected to be up to 90 dB(A).

**Table 4.6-12**
**Mission Town Center Project Construction Noise Levels[1]**

| Phase | Equipment | Noise Level (dB(A) at 10 feet)[1] | Noise Level (dB(A) at 50 feet)[1] | Noise Level (dB(A) at 70 feet)[1] |
|---|---|---|---|---|
| Demolition | Excavators, Rubber Tire Dozers, Concrete/Industrial Saws | 90 – 104 | 76-90 | 73 - 87 |
| Site Preparation | Tractors/Loaders/Backhoes, Rubber Tire Dozers | 93 | 79 | 76 |
| Grading/Excavation | Excavators, Graders, Rubber Tire Dozers | 90 - 99 | 76-85 | 73 – 82 |
| Trenching | Tractors/Loaders/Backhoes | 93 | 79 | 76 |
| Building – Exterior | Forklifts, Generator Sets, Tractors/Loaders/Backhoes, Welders, Cement Trucks | 88 - 97 | 74-83 | 71 – 80 |
| Building – Interior | Air Compressors | 92 | 78 | 75 |
| Paving | Cement and Mortar Mixers, Pavers, Paving Equipment, Rollers, Tractors/Loaders/Backhoes, Asphalt Trucks | 93 - 95 | 79-81 | 76 – 78 |

*Source: Charles M. Salter Associates, Inc., 2015*
[1] *Equipment noise levels are from Section 9 of the Federal Highway Administration Highway Traffic Noise Construction Noise Handbook.*

Based on the estimated equipment noise levels above and on-site data, nearby noise-sensitive locations would likely experience construction noise that is louder than the ambient traffic noise. An off-site land use that is of particular concern during construction is the "The Adobe" building, which is a registered California state landmark. The Adobe is often used to host events such as weddings, thus project construction noise could be of concern for that site. The Adobe is located approximately 160 feet from the project site and 125 feet from the centerline of Benton Street where utility work associated with the project will take place. From a distance of 125 feet, noise levels are estimated to be range between 66 and 82 dB(A) with direct line of sight. However, the structure is mostly well shielded from the project site by existing structures along Benton Street and thus noise levels at the structure could be lower. However, it

is still expected that this location would likely experience construction noise that is louder than the ambient traffic noise. The generation of construction noise that is louder than the ambient traffic noise at nearby off-site sensitive receptor locations, represents a potentially significant impact. **Mitigation Measure NOISE-6** is proposed to address this potentially significant impact.

**Mitigation Measures:**

**NOISE-6** Construction-related activities shall be conducted in accordance with the following:

- Based on the final construction plan and equipment list, a site specific noise reduction plan shall be prepared by a qualified acoustical consultant, detailing locations of construction noise barriers and other site mitigation, to reduce noise levels at adjacent residential properties.

- Pursuant to the Santa Clara City Code, construction activities within 300 feet of any residence shall be limited to the hours of 7:00 AM to 6:00 PM, Monday through Friday and 9:00 AM to 6:00 PM on Saturday. No construction shall occur on Sundays and holidays.

- During construction, mufflers shall be provided for all heavy construction equipment and all stationary noise sources in accordance with the manufacturers' recommendations.

- Unnecessary idling of internal combustion engines shall be limited.

- Stationary noise sources and staging areas shall be located as far as is feasible from existing residences, or contractors shall be required to provide additional noise-reducing engine enclosures (with the goal of achieving approximately 10 dB(A) of reduction compared to uncontrolled engines). Locating stationary noise sources near existing roadways away from adjacent properties is recommended (i.e., at the southwest corner of the project site).

- Air compressors and pneumatic equipment shall be equipped with mufflers, and impact tools shall be equipped with shrouds or shields.

- If for construction purposes, locating stationary construction equipment near existing residential uses is required, an eight foot tall sound-rated fence should be erected between the equipment and the sensitive receptors. The fence should be located as close to the equipment as is feasible.

- Construction vehicle access routes shall be designed to minimize the impact on existing residences. The vehicle access route shall be along El Camino Real.

- A "construction liaison" shall be designated to ensure coordination between construction staff and neighboring properties to minimize disruptions due to construction noise. Occupants and property owners adjacent to the construction

activity shall be notified in writing of the construction schedule and the contact information for the construction liaison.

- A qualified acoustical engineer shall be retained to address neighbor complaints, if they occur. If complaints occur, noise measurements shall be conducted, to determine if construction noise levels at adjacent property lines are within the standards. Short-term or long-term construction noise monitoring may also be utilized, at the discretion of the acoustical engineer, to diagnose complaints and determine if additional mitigation is required for certain phases of construction.

**Significance after Mitigation:** Implementation of this mitigation measure would reduce the impacts from construction noise at nearby sensitive receptors to a less than significant level.

---

**Impact NOISE-7:** **The construction of the project could expose persons and structures off of the project site to excessive groundborne vibration. (*Potentially Significant; Less than Significant with Mitigation*)**

Construction activities would include demolition of existing buildings, site preparation work, foundation work, and new building framing. Removal of the existing pavement could last several weeks and at times may produce substantial vibration.

**Table 4.6-13**, **Construction Vibration Levels (PPV),** presents typical vibration levels that could be expected from construction equipment at distances of 25 and 50 feet. Project construction activities such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may generate substantial vibration within 25 feet. Erection of building structures is not anticipated to be a source of substantial vibration with the exception of sporadic events such as dropping of heavy objects. Construction activities may extend over a couple construction seasons, but substantial construction vibration during most of this time is not expected except during certain vibration generating activities (as discussed above). Jackhammers typically generate vibration levels of 0.035 in/sec PPV and drilling typically generates vibration levels of 0.09 in/sec PPV at a distance of 25 feet. Again, vibration levels would vary depending on soil conditions, construction methods, and equipment used.

**Table 4.6-13**
**Construction Vibration Levels (in PPV)**

| Equipment | | PPV at 25 feet (in/sec) | PPV at 50 feet (in/sec) |
|---|---|---|---|
| Clam Shovel Drop | | 0.202 | 0.071 |
| Hydromill (slurry wall) | in soil | 0.008 | 0.003 |
| | in rock | 0.017 | 0.006 |
| Vibratory Roller | | 0.210 | 0.074 |
| Hoe Ram | | 0.089 | 0.031 |
| Large Bulldozer | | 0.089 | 0.031 |
| Caisson Drilling | | 0.089 | 0.031 |
| Loaded Trucks | | 0.076 | 0.027 |
| Jackhammer | | 0.035 | 0.012 |
| Small bulldozer | | 0.003 | 0.001 |

*Source: Federal Railroad Administration, 2006*

As noted above, for purposes of the impact analysis in this EIR, groundborne vibrations during construction that exceed 0.1 in/sec PPV at the nearest building structure would be considered significant as they could result in architectural damage. With respect to construction vibration effects on sensitive receptors, groundborne vibrations would be considered significant if they exceeded 0.24 in/sec PPV at the nearest sensitive receptors.

### *Vibration Effects on Nearby Structures*

The nearest adjacent structure (e.g., residential property at 3430 The Alameda) is approximately 10 feet away from the property line and is more than 50 years old. At a distance of 10 feet, vibration levels would exceed 0.1 in/sec PPV and project construction activities would have the potential to result in damage to the structure at 3230 The Alameda and a potentially significant impact would occur.

The primary structures at 3450 The Alameda and 610/640 Harrison Street are also over 50 years old but are set back approximately 45 feet from the property lines. At this distance, based on estimated vibration levels reported in **Table 4.6-13,** it is estimated that highest vibration levels that could be experienced at these structures would be 0.087 and 0.084 in/sec PPV from the use of a vibratory roller and clam shovel drop, respectively. Both levels of vibration are below the 0.1 in/sec PPV threshold for structural damage to old structures. Existing residences along The Alameda to the west of the project site would be at a distance of 50 feet from project construction activities and as shown in **Table 4.6-13**, at this distance the vibrations from construction activities would be below the 0.1 in/sec PPV threshold.

Another off-site structure that is of particular concern during construction is the Adobe. As noted above, the Adobe is located approximately 160 feet from the project site and 125 feet from the centerline of

Benton Street where utility work associated with the project would take place. As seen in **Table 4.6-13**, at 50 feet, vibration levels are not expected to exceed 0.1 in/sec PPV. Thus, at a distance of 125 feet, vibration levels are expected to be substantially less than the 0.1 in/sec PPV threshold. The vibration impact on the Adobe would be less than significant.

### *Vibration Effects on Sensitive Receptors*

In areas where vibration would not be expected to cause damage to structures, vibration levels may still be occasionally be perceptible to human occupants. With the exception of one home which is within 10 feet of the project's northern boundary, all nearby residences are at least 45 feet or more from the proposed construction activities. At a distance of 45 feet or more, construction activities would be unlikely to generate vibration levels that exceed the human response criterion of 0.24 in/sec PPV threshold for a distinctly perceptible transient vibration, or the 0.08 in/sec PPV for a readily perceptible continuous vibration. However residents of the one home that is within 10 feet of project construction would likely experience vibrations that exceed the two thresholds noted above. The impact would be potentially significant.

**Mitigation Measure NOISE-7** is proposed to address the potentially significant impacts on building structures and nearby sensitive receptors from construction-phase vibrations. Implementation of this mitigation measure would reduce the impact to a less than significant level.

**Mitigation Measures:**

**NOISE-7** Construction-related activities shall be conducted in accordance with the following:

- Within 45 feet of any existing structure that is over 50 years old:
  - Compaction activities shall not be conducted using a vibratory roller. Within this area, compaction shall be performed using smaller hand tampers.
  - Demolition, earth-moving and ground-impacting operations shall be phased so as not to occur at the same time.
  - Construction and demolition activities shall not involve clam shell dropping operations.
- Pursuant to the Municipal Code, construction activities within 300 feet of any residence shall be limited to the hours of 7 AM to 6 PM, Monday through Friday and 9 AM to 6 PM on Saturday. No construction shall occur on Sundays and holidays.
- A "construction liaison" shall be designated to ensure coordination between construction staff and neighboring properties to minimize disruptions due to construction vibration. Occupants and property owners adjacent to construction

activity shall be notified in writing of the construction schedule and the contact information for the construction liaison. Vibration generating activities shall be scheduled during less sensitive times of day (i.e., middle of the day) as feasible.

- A pre-construction survey of buildings within 45 feet of construction activities shall be performed, including those at 3430/3450 The Alameda and 610/640 Harrison Street to document existing conditions. Vibration monitoring shall be performed at the start of each major construction phase to confirm vibration levels at the building setback and to determine if further mitigation is needed. Buildings shall be monitored during construction for structural damage.

**Significance after Mitigation**: Implementation of this mitigation measure would reduce the impacts from construction vibration at nearby sensitive structures and receptors to a less than significant level.

---

### 4.6.5.4 Cumulative Impacts and Mitigation Measures

**Cumulative Impact NOISE-1: The proposed project, in conjunction with other past, present and reasonably foreseeable future development, would not result in a significant cumulative noise impact. *(Less than Significant)***

The relatively high traffic volumes on nearby El Camino Real and Benton Street are the primary sources of noise in the area. The traffic study prepared by Fehr and Peers dated October 13, 2015 provides traffic volumes at 11 study intersections around the project site. The information included projected volumes for the "Cumulative (2040)" condition. Traffic volumes for this scenario at all intersections were used to calculate the relative increase in traffic noise attributable to the proposed project. Since existing Ldn noise levels on adjacent roadways are above 60 dBA, a noise impact would be considered significant at noise-sensitive land uses if the project would result in an Ldn noise level increase of 3 dBA or more. On smaller residential streets noise levels may be below 60 dBA Ldn, however, measurements were not conducted on the smaller residential streets away from the project site. Where noise levels remain below an Ldn of 60 dB, a 5 dBA or more increase in noise would be considered a significant impact.

As shown in Appendix B of the Noise Impact Report, the comparisons of calculated noise levels for the Cumulative (2040) and Cumulative (2040) plus Project scenarios indicate that the project would not substantially increase traffic noise levels at noise-sensitive receptors outside of the project site. While noise levels will increase by 3 dBA at some intersections, this is primarily due to the fact noise levels would increase by that amount as a result of the cumulative traffic volume without the project. The addition of the project traffic would not result in a cumulative increase of 3 dBA or more.

Some intersections (e.g., project access from El Camino Real and the north segment of Sherman Street/Benton Street intersection) show a significant increase in noise levels. However, these segments are

internal to the project and would not have any impact on nearby properties. Furthermore, as indicated in Appendix B, the traffic volumes for these segments are far less than the surrounding roadways. Traffic along El Camino Real is significantly higher and will control noise levels at the project access driveway, resulting in a less than significant change in noise levels. The highest hourly traffic volume for the Benton and Sherman Street intersection is approximately 141 cars. This corresponds to a noise level of approximately 58 dB[7] at a distance of 30 feet from the Sherman Street centerline, which is less than the current noise levels measured at the site. Finally, as noted earlier, the project will be required to implement **Mitigation Measures Noise-1a** and **Noise-1b**. For these reason, this cumulative impact is considered less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

## 4.6.6 REFERENCES

Barry, T.M. and J.A. Reagan. 1978. *FHWA Highway Traffic Noise Prediction Model*. US Department of Transportation, Federal Highway Administration, Office of Research, Office of Environmental Policy. (NTIS, FHWA-RD-77-108). Washington, D.C.

California Department of Transportation (Caltrans). 2013. *Transportation and Construction Vibration Guidance Manual*. September.

Charles M. Salter Associates Inc. 2015. *Mission Town Center Acoustical Input to Environmental Impact Report*. November 12.

City of Santa Clara (CSC). 2014. *City of Santa Clara 2010-2035 General Plan*. Adopted November 16, 2010. Amended December 2014.

Fehr and Peers. 2015. *Mission Town Center Transportation Impact Analysis.* November.

US Department of Transportation, Federal Highway Administration. 1980a. *Highway Noise Fundamentals*, Springfield, Virginia.

US Department of Transportation, Federal Highway Administration. 1980b. *Highway Noise Mitigation.* Springfield, Virginia.

US Department of Transportation, Federal Transit Administration, Office of Planning and Environment. 2006. *Transit Noise and Vibration Impact Assessment.* FTA-VA-90-1003-06.

Santa Clara County (SCC) Airport Land Use Commission (ALUC). 2011. *San Jose International Airport Comprehensive Land Use Plan*. Adopted May 25.

---

7 Calculation is based on the Federal Highway Administration (FHWA) traffic noise calculation and assumes a speed of 30 mph and 1 percent trucks.

# 4.7 PUBLIC SERVICES

## 4.7.1 INTRODUCTION

This section describes the existing public services that serve the project site and its vicinity and potential impacts to these services from the construction and occupancy of the proposed project. The public services addressed in this section include fire protection, law enforcement, schools, libraries, and parks and recreation facilities. Regulations and policies affecting the public services in the City are also described. Information in this section is based on consultation with individual service providers and City staff.

## 4.7.2 ENVIRONMENTAL SETTING

### 4.7.2.1 Fire Protection

The Santa Clara Fire Department (SCFD) provides fire protection to all areas within the City of Santa Clara. The SCFD has 10 fire stations strategically located throughout the City to provide fire protection. The SCFD employs 124 full time fire fighters. The SCFD strives to maintain a firefighter-to-service population of 1.5 firefighters per 1,000 service population (Tomlin 2015). With a daytime population of 157,161 residents and employees in the City of Santa Clara (U.S. Census Bureau 2006-2010), the firefighter-to-service population ratio is about 1.26 firefighters per 1,000 residents and employees, which is below the SCFD's goal.

During 2014, the SCFD responded to approximately 8,400 calls for service. The SCFD's target response time to a call for emergency service is less than 5 minutes and 30 seconds 90 percent of the time, and in 2014 the SCFD met this standard 85 percent of the time (Tomlin 2015).

Fire Station 1, located at 777 Benton Street, is the primary station that serves the project site. The current staff at Fire Station 1 is one captain, one driver engineer, and one firefighter. Equipment at this station includes a Type 1 fire engine with basic life support capability (emergency medical technicians). Staffing and equipment at Fire Station 1 is considered adequate to meet existing demand (Madden 2015).

### 4.7.2.2 Law Enforcement

The Santa Clara Police Department (SCPD), located at 601 El Camino Real, provides police services to all areas within the City. This is the primary police station with all personnel and equipment located at this station. The services that the SCPD provides include patrol, investigation, dispatch, and administrative services. The SCPD also has a substation that is located at the Rivermark Shopping Center.

The SCPD currently has 209 employees, including 145 sworn officers and 64 non-sworn personnel (McDowell 2015a). Of the 145 sworn officers, the majority serve in the Patrol Division. Officers are also assigned to the Investigative Services Division and the Administrative Services Division. The SCPD's 64 non-sworn personnel serve the department in a number of assignments and capacities, including community service officers, jail service officers, records specialists, clerical staff, crime analysis, management analyst, records manager, communications dispatchers, and radio technicians. Major equipment available at the 601 El Camino Real station includes marked cars, unmarked cars, a Special Response Team vehicle, a Negotiations Team vehicle, a BEARCAT and four police canines. Other types of emergency vehicles, including two helicopters, are available through mutual aid agreements with the surrounding law enforcement agencies. The 911-dispatch center is currently located at 601 El Camino Real station. The SCPD strives to maintain an officer-to-service population of 1.7 officers per 1,000 service population, which is the national average reported to the Federal Bureau of Investigation. With a daytime population of 157,161 residents and employees in the City of Santa Clara, the current officer-to-service population ratio is about 0.92 officers per 1,000 residents and employees, which is below the SCFD's goal. The SCPD does not have a goal with respect to non-sworn personnel. The current non-sworn personnel-to-service population ratio is 0.41 non-sworn personnel per 1,000 residents and employees.

The SCPD responded to approximately 89,000 calls for service in 2014, which included 4,115 calls for service with 0.25 mile of the project site. The SCPD has an adopted performance standard to respond to high-priority calls in 3 minutes or less. The SCPD does not have a performance standard for non-priority calls, but as a practice, the SCPD has an average response time of less than 8 minutes to all calls. The SCPD reports that their actual response time to high priority calls is over 4 minutes (McDowell 2015a).

#### 4.7.2.3 Schools

The project site is served by the Santa Clara Unified School District (SCUSD). The SCUSD provides kindergarten through 12th grade services for students within its service area. The student enrollment in the 2014–15 school year was 15,298 students (California Department of Education 2015).

The SCUSD has 16 elementary (K–5) schools, one K–8 school, three middle (6–8) schools, two high schools, and two continuation high schools. Westwood Elementary School, Buchser Middle School, and Santa Clara High School would serve the project site. Westwood Elementary School is located 1.75 miles southeast of the project site at 435 Saratoga Avenue. Buchser Middle School is located at 1111 Bellomy Street, 0.5 miles southeast of the project site while Santa Clara High School is located at 3000 Benton Street, 2.25 miles east of the project site.

**Table 4.7-1, Project Area Schools,** presents the current enrollment for each school serving the project site.

**Table 4.7-1**
**Project Area Schools**

| School Name | Grade Level | Enrollment |
|---|---|---|
| Westwood Elementary | K–5 | 513 |
| Buchser Middle School | 6–8 | 988 |
| Santa Clara High School | 9–12 | 1,922 |

*Source: Santa Clara Unified School District, 2015*

According to the SCUSD, all of the schools that serve the project site are at or over capacity. There are current plans to re-open Central Park Elementary School for the 2016-17 school year in order to alleviate overcrowding in the southern portion of the school district. In addition, the SCUSD plans to construct a new K-8 school and high school on the site of the former Agnews Development Center in north San Jose. It is expected that the new high school will be open for the 2019-20 school year. No opening date for the K-8 school has been set. The new schools will help alleviate capacity within the district at all levels. However, the SCUSD has indicated that another elementary school site will be needed in the future (Healy 2015).

### 4.7.2.4 Libraries

The City of Santa Clara is served by the Central Library, located at 2635 Homestead Road; the Mission Library Family Reading Center, located at 1098 Lexington Street; and the Northside Branch, located at 695 Moreland Way. The Central Park Library has 80,000 square feet of space and owns 446,441 volumes, including 391,492 book volumes and 48,513 audio-visual volumes. The Mission Family Reading Center also provides 7,770 square feet of space and owns 16,114 volumes, including 14,388 book volumes and 1,708 audio visual volumes, while the Northside Branch provides 17,000 square feet of space and owns 57,369 volumes, including 48,740 book volumes and 8,582 audio-visual volumes (Keith 2015).

California is one of 10 states that do not have formal library standards for collections or facilities. The Santa Clara Library Department currently has service goals of 3.0 book volumes per capita and 3.4 items (books and audio-visual volumes) per capita. With a 2015 City population of 120,973 residents (DOF 2015), the City's library system currently has 3.76 book volumes per capita and 4.30 items per capita. In addition, the City strives to provide 1 square foot of library space per capita, which is based on the average square foot of library space per capita in California. The current square footage of library space per capita is 0.87 square foot per resident.

#### 4.7.2.5 Parks and Recreation

The Santa Clara Parks and Recreation Department provides parks and recreational services in the City. The department is responsible for maintaining and programming the various parks and recreation facilities, and works cooperatively with public agencies in coordinating all recreational activities within the City. Overall, the department maintains and operates Central Park (45.04 acres), 25 neighborhood parks (122.67 acres), 5 mini parks (2.59 acres), improved public open space (16.13 acres), recreation facilities (14.86 acres excludes SCT&C/BMX), recreation trails (3.72 acres), and joint use facilities (47.52) throughout the City totaling approximately 252.53 improved acres (Saporito 2015).

Two parks and recreation facilities are located within 0.5 mile of the project site. Larry J. Marasalli Park, a 7.0-acre neighborhood park, is located less than 0.25 mile to the northwest of the project site and includes such amenities as a lighted softball field and a children's playground, while City Plaza Park, a 1.6-acre neighborhood park, is located about 0.50 mile to the southwest of the project site and includes a gazebo, picnic tables, and benches.

The City Code Chapter 17.35 states that the Parkland standard is 2.53 acres per 1,000 residents per the Mitigation Fee Act provisions of the City Code and 3 acres per 1,000 residents per the Quimby Act provisions of the City Code. The City is currently meeting the standard of 2.53 acres per 1,000 residents per the Mitigation Fee Act provisions of the City Code and 3 acres per 1,000 residents per the Quimby Act provisions of the City Code with regard to neighborhood parks (Saporito 2015).

### 4.7.3 REGULATORY CONSIDERATIONS

#### 4.7.3.1 State Law

***Senate Bill 50***

The Leroy F. Greene School Facilities Act of 1998, or Senate Bill 50 (SB 50), restricts the ability of a local agency to deny project approvals on the basis that public school facilities (classrooms, auditoriums, etc.) are inadequate. School impact fees are collected at the time building permits are issued. These fees are used by the local schools to accommodate the new students added by the project, reducing potential impacts on schools to a less than significant impact. Payment of school fees is required by SB 50 for all new residential development projects and is considered full and complete mitigation for school impacts of new development.

### 4.7.3.2 Local Plans and Policies

## *City of Santa Clara General Plan*

The City of Santa Clara 2010-2035 General Plan contains goals and policies related to fire protection and emergency services, police, schools, and parks in the City. General Plan policies relevant to the proposed project are as follows:

**Parks, Open Space, and Recreation Goals and Policies**

**Goal 5.9.1-G1** Ample facilities for physical activities that promote community health.

**Goal 5.9.1-G2** Parks, trails, and open space located within a 10-minute walk to residential neighborhoods and employment centers.

**Goal 5.9.1-G3** New parks, open space, and recreation provided with new development so that existing facilities are not overburdened.

**Goal 5.9.1- G4** Park, trail and open space facilities that are accessible and provide connections to destination points and activity centers within the City.

**Policy 5.9.1-P1** Develop additional parkland in the City so that it is integrated into neighborhoods and meets the standards for size, amenities and location to serve residents and employees.

**Policy 5.9.1-P2** Develop new parks to serve the needs of the surrounding community based on the criteria defined on Table 5.9-1.

**Policy 5.9.1_P3** Provide trails along creeks and other rights-of-way to link parks, open spaces, bicycle facilities and transit services with residential neighborhoods and employment centers.

**Policy 5.9.1-P4** Provide connections between private and public open space through publicly accessible trails and pathways and by orienting open spaces to public streets.

**Policy 5.9.1-P5** Encourage public visibility for all parks, trails and open spaces.

**Policy 5.9.1-P14** Encourage publicly accessible open space in new development.

**Policy 5.9.1-P15** Provide opportunities for private maintenance of publicly accessible open space and trails.

**Policy 5.9.1-P17** Foster site design for new development so that building height and massing do not overshadow new parks and plazas.

**Policy 5.9.1-P18** Promote open space and recreational facilities in large-scale developments in order to meet a portion of the demand for parks generated by new development.

**Policy 5.9.1-P20** Promote the continuation of a parks per population ratio of 2.4 per 1,000 residents and explore the potential to increase the ratio to 3.0, based on the Parks and Recreation Needs Assessment (Parks Master Plan), referenced in Plan Prerequisite 5.1.1-P24.[1]

**Schools and Community Facilities Goals and Policies**

**Goal 5.9.2-G1** Schools and community facilities that meet the needs of all segments of the population.

**Goal 5.9.2-G2** Appropriate arts, cultural, recreational, schools and other community facilities in concert with new development.

**Policy 5.9.2-P2** Periodically evaluate library services and facilities in order to respond to changing community demands.

**Policy 5.9.2-P3** Provide library services that are accessible and of adequate size to serve community residents, particularly for Future Focus Areas, north of the Caltrain corridor.

**Policy 5.9.2-P8** Cooperate with local school districts in collecting fees for development projects as required by state regulations.

**Public Services Goals and Policies**

**Goal 5.9.3-G1** A safe and secure environment for people and property in the community.

**Goal 5.9.3-G2** Public safety response-time goals met throughout the City.

---

1 Needs Assessment was completed in 2014. Ordinance #1928 was approved in 2014.

**Policy 5.9.3-P1** Encourage design techniques that promote public and property safety in new development and public spaces.

**Policy 5.9.3-P2** Provide police and fire services that respond to community goals for a safe and secure environment for people and property.

**Policy 5.9.3-P4** Maintain a Citywide average 3-minute response time for fire emergency service calls.

**Policy 5.9.3-P5** Maintain emergency traffic preemption controls for traffic signals.

**Safety Goals and Policies**

**Goal 5.10.5-G1** Protection of life, the environment, and property from natural catastrophes and man-made hazards.

**Goal 5.10.5-G3** Availability of emergency services in the event of a disaster.

**Policy 5.10.5-P24** Protect City residents from the risks inherent in the transport, distribution, use, and storage of hazardous materials.

**Policy 5.10.5-P28** Continue to require all new development and subdivisions to meet or exceed the City's adopted Fire Code provisions.

### *Park and Recreational Land*

On July 15, 2014, Santa Clara City Council adopted Ordinance No. 1928 adding Chapter 17.35 "Park and Recreational Land" to Title 17 "Development" of the Santa Clara City Code. The ordinance ensures that new residential development provides adequate park and recreational land and/or pays a fee in lieu of parkland dedication, at the discretion of the City, to mitigate the impacts of the new growth. Under the ordinance, a project can satisfy up to half of its total parkland obligation by providing private recreational facilities on-site as approved by the City.

## 4.7.4 IMPACTS AND MITIGATION MEASURES

### 4.7.4.1 Significance Criteria

The impact of the proposed project on public services would be considered significant if it would exceed the following standards of significance, in accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
  - Fire protection
  - Police protection
  - Schools
  - Parks
  - Other public facilities
- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

### 4.7.4.2 Methodology

Public service providers serving the project site were contacted to determine existing operational service levels and whether there are any existing service deficiencies. The estimated population expected to be added to the City by the proposed development was presented to the service provider. Other details of the proposed project were also provided. The service provider then determined whether there would be a need to construct new or physically altered public facilities in order to maintain acceptable service ratios and serve the proposed project.

### 4.7.4.3 Project Impacts and Mitigation Measures

**Impact PUB-1: The proposed project would not require the construction of new or physically altered fire facilities. (*Less than Significant*)**

The project site is currently developed with residential, commercial, and light industrial buildings, several of which are occupied. As a result, the project site currently generates a demand for fire services. With the implementation of the proposed project, the density of development on the site would increase compared to existing conditions, and a residential population of approximately 1,036[2] residents would be added to the site (as well as the City of Santa Clara as a whole). The project's retail space component

2 Based on an average household size of 2.69 persons for the City of Santa Clara (DOF 2015).

would generate approximately 78[3] employees. Due to the higher density of development as well as a change in land use on the project site, there would be an increase in the need for fire suppression services.

As discussed above, the department strives to maintain a firefighter-to-service population ratio of 1.5 firefighters per 1,000 residents and employees. To meet this standard, the City would need to add one to two firefighters to serve the 1,114 residents and employees[4] generated by the proposed project. According to the SCFD, existing fire facilities in the City could accommodate the additional firefighters required by the proposed project to meet the SCFD's service standard. The addition of one to two firefighters would not require the construction of new or physically altered SCFD facilities (Madden 2015). Since project implementation would not require new or physically altered fire facilities, the impact to fire services would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

**Impact PUB-2: The proposed project would not require the construction of new or physically altered police facilities. (*Less than Significant*)**

For the same reasons discussed above, due to an increase in the density of development and a change in the type of land use, implementation of the proposed project would result in an increase in the demand for police services serving the site. The SCPD may experience an increased call volume for emergency responses generated by the predominantly residential population that would be present on the project site during daytime and nighttime hours (as compared to a mostly daytime population associated with existing uses on the site and a small residential population) and the retail establishments that would attract diverse populations could also increase the number of calls for service compared to the current uses.

As discussed above, the SCPD strives to maintain an officer-to-service population ratio of 1.7 officers per 1,000 residents. To meet this standard, the City would need to add one to two officers to serve the 1,114 residents and employees associated with the proposed project. In addition, the current non-sworn personnel-to-service population ratio is 0.41 non-sworn personnel to per 1,000 residents and employees. To maintain this ratio, the City would need to add one non-sworn staff member to serve the population generated by the proposed project. The SCPD has also indicated the additional staffing generated by the proposed project would result in the need for four additional patrol vehicles (McDowell 2015a).

---

3 Based on an average of 1 worker per 400 square feet of retail and leasing space.

4 1,036 residents + 78 employees = 1,114 total service population.

According to the SCPD, existing police facilities in the City could accommodate the additional officers and equipment required to maintain service levels for the proposed project (McDowell 2015b). As a result, because the increase in the number of officers would not be substantial, the addition of one to two officers, one non-sworn staff member, and four additional patrol vehicles would not require the construction of any additional SCPD facilities or expansion of existing facilities, the construction of which could result in environmental impacts. Since project implementation would not require new or physically altered police facilities, the impact to police services would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

**Impact PUB-3: The proposed project would not require the construction of new or physically altered school facilities. (*Less than Significant*)**

The proposed project would add 385 apartment units to the project site which would increase the residential population in this portion of Santa Clara, including school age children. The SCUSD has estimated that the proposed project would generate approximately four grade K-5 students, two grade 6–8 students, and two high school students for a total of 8 students (SCUSD 2015)

The retail component of the proposed project would generate an estimated 78 new jobs at the project site. Given the large pool of workers in the Bay Area, it is anticipated that these jobs will be filled by workers already residing in the Bay Area who would not relocate to the project vicinity in order to work at the project site. Consequently, the employees associated with the proposed project and their households are not expected to place a demand on SCUSD schools.

As discussed above, all of the schools that serve the project site are at or over capacity. Although the project would add a small number of students to the area schools, the K-12 students associated with the proposed project would result in the overutilization of these schools. The SCUSD has plans to address this issue by building additional facilities elsewhere in the City. In order to offset the costs of new construction due to increased future student generation, the SCUSD has established developer fees to pay for new school construction and redevelopment in the City of Santa Clara. The developer fees are $3.36 per square foot of residential development and $0.54 per square foot for commercial development (Healy 2015). In accordance with SB 50, the project applicant would pay these fees to help mitigate impacts to the school district and provide funding for new facilities. In addition, the school district would receive a portion of the property taxes collected annually after the project is constructed as well as SCUSD General Obligation bond taxes that are collected annually concurrent with property taxes. The school district has indicated that these monies along with developer fees would fully mitigate the school impacts and help

meet the school needs of the students associated with the proposed project (SCUSD 2015). Therefore, the impact of the proposed project on schools within the SCUSD would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

**Impact PUB-4:** **The proposed project would not require the construction of new or physically altered library facilities. (*Less than Significant*)**

The proposed project would generate an additional 1,036 residents in the City. For the purposes of this evaluation, the City's service goals of volumes per capita were used. The City's library system currently has 3.76 books per capita and 4.30 items per capita and therefore meets or exceeds the service goals of 3.0 volumes (books) per capita and 3.4 items (books and audio-visual volumes) per capita. Even with the addition of project population, the City's library system would continue to meet or exceed its service goals and would not require new or physically altered facilities to accommodate a larger collection. Therefore, the impact of the proposed project on library services would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

**Impact PUB-5:** **Development of the proposed project would increase the use of existing neighborhood parks or other recreational facilities such that substantial physical deterioration of the facilities could occur or be accelerated. In addition, the demand created by the proposed project could require the construction of new or physically altered parks and recreation facilities. (*Potentially Significant*; *Less than Significant with Mitigation*)**

The City's Parks and Recreation Department provides 2.53 acres of parkland per 1,000 residents. This ratio has been developed by the City in order to deliver parkland as the City's population grows so that overcrowding and excessive use of the City's park facilities do not occur. As noted earlier, the City is currently meeting the standard of 2.53 acres per 1,000 residents per the Mitigation Fee Act provisions of the City Code and 3 acres per 1,000 residents per the Quimby Act provisions of the City Code with regard to neighborhood parks.

Implementation of the proposed project would contribute to an increase in demand for parkland because the proposed project would potentially add up to additional 1,036 residents to the City. The increased population associated with the proposed project would contribute to the overuse of existing parks near

the project site that would potentially lead to physical deterioration of park facilities and overcrowding. In addition, the project would require the City to add more parkland to the City's inventory of parkland in order to continue to meet the City's minimum standard of 2.53 acres of parkland per 1,000 residents for Mitigation Fee Act (non-subdivided projects) and 3.0 acres of parkland per 1,000 residents for new subdivisions under the Quimby Act. Based on the City's minimum standard, the proposed project is estimated to require 2.62 acres of parkland to serve the increased population in the City. However, the project includes about 0.15 acres of public open space, 0.52 acres of private open space, including amenities such as a pool and fitness center. The Parks and Recreation Department may apply some credit for the amenities provided on-site that are comparable to City amenities. However, these credits would not be enough to satisfy the City's parkland dedication requirement. The impact related to parks and recreational facilities would be potentially significant. Therefore, to address the park needs of the proposed project, avoid over use of existing parks, and avoid a deficiency of parkland acreage in the City, **Mitigation Measure PUB-5** is proposed which requires the project applicant to pay park in-lieu fees per City Code (Chapter 17.35) to provide for the balance of the necessary parkland to serve the increased population.

**Mitigation Measures:**

**PUB-5** The Applicant shall pay park in-lieu fees per City Code (Chapter 17.35) to satisfy the balance of the City's parkland dedication requirement. Any in-lieu fees imposed under this chapter shall be due and payable to the City prior to issuance of a building permit for each dwelling unit, consistent with City Code Chapter 17.35 and as specified in the Development Agreement for the project.

**Significance after Mitigation**: The City has determined that dedication of land and payment of remaining fees due in lieu of land dedication minus the maximum credit of 50 percent for eligible onsite parkland recreational elements represents full and complete mitigation for parkland impacts. The in lieu fees paid by the project applicant would be used by the City to acquire and/or develop new parkland and/or amenities or facilities, and mitigate any environmental impacts from the development of the park facilities. Therefore, implementation of **Mitigation Measure PUB-5** would reduce the proposed project's impact related to parks and recreational facilities to a less than significant level.

---

### 4.7.4.4 Cumulative Impacts and Mitigation Measures

**Cumulative Impact PUB-1:** **The proposed project, in conjunction with other closely related past, present and reasonably foreseeable future development, would not**

**result in a significant cumulative impact on public services. (*Less than Significant*)**

The following analysis evaluates the significance of potential cumulative public service impacts of the proposed project in conjunction with other recent past, present, and reasonably foreseeable future projects included in **Tables 4.0-1 Approved Projects,** and **4.0-2, Pending Projects.**

## *Fire Service*

As discussed above under **Impact PUB-1**, implementation of the proposed project would contribute to an increase in demand for fire protection services. However, this increase in demand would not result in the need for new or physically altered fire facilities, the construction of which could cause significant environmental impacts. The other foreseeable development projects in the City, as listed in **Tables 4.0-1** and **4.0-2,** are also predominately redevelopment projects. The majority of these projects would increase the intensity of the land use or change the land use, which would result in an incremental demand to fire services. Each cumulative project has been or will be subject to environmental review and if significant impacts are identified, mitigation measures would be implemented to avoid or reduce the impacts. According to the City's General Plan EIR, existing fire facilities would have the capacity to absorb additional fire personnel required to accommodate growth in the City through 2035 without the need for expansion. Therefore, there would be no construction activities associated with the provision of new or physically altered fire facilities (CSC 2011). However, in the event that new fire stations are needed as a result of cumulative development in the City, given that the City is mostly built out, any new fire stations would be mostly likely be located on existing urban parcels. Due to the nature of urban infill projects, potential impacts associated with the construction of new fire stations are expected to be less than significant, or if potentially significant, capable of being mitigated to a less than significant level with mitigation. The cumulative impact on fire services and facilities would be less than significant.

## *Police*

The proposed project, in conjunction with other past, present, and reasonably foreseeable future projects in the City, would generate an increased demand for police services. As discussed above under **Impact PUB-2**, implementation of the proposed project would contribute to an increase in demand for police services. However, this increase in demand would not result in the need for new or physically altered police facilities, the construction of which could cause significant environmental impacts. As mentioned above, the other foreseeable development projects in the City listed in **Tables 4.0-1** and **4.0-2** are predominately redevelopment projects, and most would increase the intensity of the land use or change the land use resulting in an incremental demand to police services. Each cumulative project has been or

will be subject to environmental review and if significant impacts are identified, mitigation measures would be implemented to avoid or reduce the impacts. Due to recent development in the City, the SCPD has indicated that additional police officers and support staff are needed to maintain its current level of service, and this need will continue to increase as development projects in the city proceed through the development approval process. The need for additional personnel will also result in the need for additional equipment (e.g., radios, vehicles, computers, bicycles, etc.) along with a re-design of existing facilities. However, there are no plans at this time to add equipment or expand the existing police facility at 601 El Camino Real (McDowell 2015a). Therefore, there would be no construction activities associated with the provision of new or physically altered police facilities The cumulative impact on police services and facilities would be less than significant.

### *Schools*

As discussed above, several schools in the SCUSD are at or over their capacities. The SCUSD is reopening Central Park Elementary School for the 2016-2017 school year to help alleviate overcrowding in the southern portion of the school district. In addition, as discussed above, the SCUSD plans to construct a new K-8 school and high school on the site of the former Agnews Development Center in north San Jose to alleviate overcrowding district wide. In February 2012, the SCUSD certified an EIR (SCH No. 2011032006) for construction of the new schools on the Agnews site. The EIR found that construction of the schools would result in significant and unavoidable impacts with regard to aesthetics, biological resources, cultural resources, and transportation. As the proposed project would contribute to the need for additional capacity in the district, which would be relieved with the construction of new schools on the Agnews site, the proposed project would incrementally contribute to the significant and unavoidable impacts identified in the EIR for these new schools. However, as discussed above under **Impact PUB-3**, the project applicant would be required to pay developer fees to the school district. Similarly, other approved and reasonably foreseeable future projects within Santa Clara would also be required to pay developer fees to the school district. Any environmental impacts associated with providing school services to new students generated by the proposed project or other cumulative development, including environmental impacts from the construction of new school facilities described above, would be fully mitigated by payment of the required developer fees, per SB 50, as well as by the payment of property taxes and General Obligation bond taxes collected as part of the property taxes and paid out to the SCUSD. Therefore, the cumulative impact to school facilities and services would be less than significant.

### *Library Services*

The proposed project, in conjunction with other past, present, and reasonably foreseeable future projects in the City, would generate an increased demand for library services. As discussed above under **Impact**

**PUB-4**, implementation of the proposed project would contribute to an increase in demand for library services. However, this increase in demand would not result in the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts. **Tables 4.0-1** and **4.0-2** list all approved and reasonably foreseeable future projects in Santa Clara. Each cumulative project has been or will be subject to environmental review and if significant impacts are identified, mitigation measures would be implemented to avoid or reduce the impacts. According to the City's General Plan EIR, future growth in the City may require additional library facilities (CSC 2011). Given that the City is mostly built out, any new library facilities would be mostly likely be located on existing urban parcels. Due to the nature of urban infill projects, potential impacts associated with the construction of new library facilities are expected to be less than significant or if potentially significant, capable of being mitigated to a less than significant level with mitigation. Therefore, the cumulative impact from the construction of new library facilities would be less than significant.

### *Parks and Other Recreational Facilities*

The proposed project, in conjunction with other past, present and reasonably foreseeable future projects in the City, would generate an increased need for additional parkland and would also increase the use of existing parks and recreational facilities. As discussed above under **Impact PUB-5**, implementation of the proposed project would contribute to an increase in demand for parkland and the utilization of existing facilities. However, with the dedication of land and/or payment of fees in lieu of land dedication according to the standard included in the City Code Chapter 17.35, the project's impact to parks and recreational facilities would be mitigated to a less than significant level. **Tables 4.0-1** and **4.0-2** list approved and reasonably foreseeable future projects in Santa Clara. Each cumulative project has been or will be subject to environmental review. Any impacts associated with the development of additional parkland to serve the reasonably foreseeable growth in the City would be analyzed in those projects' environmental review processes, and the effects associated with the use of existing facilities by new residents would be mitigated with inclusion of recreational facilities on the development sites and/or by payment of park in-lieu fees. Furthermore, according to the City's General Plan EIR, the General Plan policies and existing regulations and programs would ensure that the development of parkland within the City would not have an adverse physical effect on the existing environment. In addition, the increased demand associated with an increase in population would not significantly accelerate the deterioration of existing facilities (CSC 2011). Therefore, the cumulative impacts on parks and recreation facilities would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

## 4.7.5 REFERENCES

California Department of Education: Educational Demographics Unit. 2015. Enrollment by Grade for 2014-15: District Enrollment by Grade. May 1.

California Department of Finance (DOF). 2015. E-1 Population Estimates for Cities, Counties, and the State. May.

City of Santa Clara (CSC). 2011. *City of Santa Clara 2010-2035 General Plan Integrated Environmental Impact Report*. January.

CSC. 2014. *City of Santa Clara 2010-2035 General Plan*. Adopted November 16, 2010. Amended December 2014.

Healy, M. 2015. Santa Clara Unified School District Business Services. Personal communications with P. Stephenson, Impact Sciences, Inc. March 31 and April 2.

Keith, H. 2015. City Librarian. Santa Clara Library Department. Personal communications with P. Stephenson, Impact Sciences, Inc. April 17 and April 21.

Madden, J. 2015. Deputy Chief. Santa Clara Fire Department. Personal communications with P. Stephenson, Impact Sciences, Inc. October 13.

McDowell, C. 2015a. Staff Analyst. Santa Clara Police Department. Personal communications with P. Stephenson, Impact Sciences, Inc. April 14 and April 22.

McDowell, C. 2015b. Staff Analyst. Santa Clara Police Department. Personal communication with P. Stephenson, Impact Sciences, Inc. October 13.

Santa Clara Unified School District (SCUSD). 2015. Letter written by Stanley Rose III, Superintendent. School Impacts from the Santa Clara Square Project. June 2.

Saporito, G. 2015. Staff Aide II. Parks & Recreation Department. Personal communication with P. Stephenson, Impact Sciences, Inc. November 10.

Tomlin, J. 2015. Fire Marshal. Santa Clara Fire Department. Personal communication with P. Stephenson, Impact Sciences, Inc. September 25.

United States Census Bureau. 2010. Commuter Adjusted Daytime Population: 2006-2010 American Community Survey 5-Year Estimates.

United States Census Bureau. 2010. Commuter Adjusted Daytime Population: 2006-2010 American Community Survey 5-Year Estimates.

# 4.8 TRANSPORTATION AND TRAFFIC

## 4.8.1 INTRODUCTION

This section describes the existing transportation setting and analyzes the potential impacts of the proposed Mission Town Center project on transportation and traffic. Information to prepare this section was obtained from the Traffic Impact Analysis (TIA) prepared for the proposed project by Fehr & Peers, Inc. The TIA is included in **Appendix 4.8** of this Draft EIR.

## 4.8.2 ENVIRONMENTAL SETTING

This subsection describes the existing condition of the transportation system serving the project site, including roadway facilities, transit service, bicycle facilities, pedestrian facilities, traffic volumes, and intersection operations.

### 4.8.2.1 Existing Roadway Network

**Figure 4.8-1, Project Vicinity**, presents the location of the project site and the surrounding roadway network. The project site is bounded by Harrison Street to the north, The Alameda to the west, Benton Street to the south, and El Camino Real to the east. Primary automobile access to the project site is provided by US 101, the Central Expressway, De La Cruz Boulevard, Lafayette Street, the San Tomas Expressway, El Camino Real, and I-880.

- **US 101** is an eight-lane divided freeway that runs from east San José to San Francisco along the west side of San Francisco Bay, connecting communities along the Peninsula. The freeway is a major commute route in Silicon Valley, providing access to businesses in downtown San José and technology employers within the South Bay and on the Peninsula. One lane in each direction operates as a High Occupancy Vehicle (HOV) lane from 5:00 to 9:00 AM and from 3:00 to 7:00 PM, Monday through Friday. Access to the project site from US 101 is provided via De La Cruz Boulevard.

- **Central Expressway** is a four-lane expressway located south of US 101 that connects San José to Mountain View. Central Expressway begins at San José International Airport and terminates at San Antonio Road in Mountain View, where it transitions into Alma Street. There are HOV lanes in both directions that operate from 6:00 AM to 9:00 AM and 3:00 PM to 7:00 PM on weekdays only. The posted speed limit on Central Expressway is 50 miles per hour (mph).

- **De La Cruz Boulevard** is a six-lane arterial located north of the project site. The roadway serves as the project site's primary connection to US 101 and the Central Expressway via Alviso Street, El Camino Real, and Lewis Street. The posted speed limit is 40 mph.

- **Coleman Avenue** is a six- to eight-lane arterial located north of the project site. The roadway connects the project site to downtown San José. The posted speed limit is 35-40 mph.

- **Lafayette Street** is a three-lane roadway with a reversible center lane and parallel parking near the project site. The posted speed limit is 30 mph. North of El Camino Real the roadway expands to four

lanes and progressively includes a center turn lane and a higher posted speed limit of 40 mph. The roadway connects the project site with industrial areas and the greater north metro area.

- **San Tomas Expressway/Montague Expressway** is a six-to-eight-lane arterial expressway extending from Highway 17 at its south end to I-880 in the City of San José. North of US 101, the roadway is designated as Montague Expressway and extends eastward through San José to the City of Milpitas. In the City of Santa Clara, this facility includes HOV lanes in both directions for buses and carpools. The posted speed limit on San Tomas Expressway is 45 mph.

- **El Camino Real** is a six-lane arterial located adjacent to the project site. Parallel parking is provided on both sides of the roadway north of the project site. It begins near San Francisco at Alemany Boulevard and continues south to just south of the project site where it becomes The Alameda. This roadway runs parallel to and between I-280 and US 101 and provides local access to various employers and retail/commercial land uses along the peninsula. El Camino Real links the project site to the San Tomas Expressway as well as I-880 and downtown San José via The Alameda. The posted speed limit is 40 mph.

- **Interstate 880** is a six-lane divided freeway that runs from the southwest of the San José metro area to Oakland along the east side of San Francisco Bay. The freeway is a major commute route, providing access to businesses in downtown San José and along the east bay while connecting with I-80 to provide access destinations north of the bay area. Portions of the roadway include an additional lane that operates as a High Occupancy Vehicle (HOV) lane from 5:00 to 9:00 AM and from 3:00 to 7:00 PM, Monday through Friday. Access to the project site from Interstate 880 is provided via El Camino Real/The Alameda.

#### 4.8.2.2 Existing Transit Service

Valley Transportation Authority (VTA) buses, including routes 32, 60, and 81, currently provide service to the project area. Additionally, the Santa Clara Transit Center (transit center) is located southeast of the project site across El Camino Real. The transit center services several regional carriers, but requires crossing a six-lane arterial to access the transit center from the project site. Carriers that service the transit center include VTA, Altamont Corridor Express (ACE), Caltrain, and Amtrak Capitol Corridor. Additionally this site is a Park & Ride with 289 spaces for vehicles, 18 bike racks and 54 bike lockers. **Figure 4.8-1** shows the locations of these facilities in relation to the project site and **Figure 4.8-2, Existing Transit Service**, shows the local bus routes that stop adjacent to the site. **Table 4.8-1, Existing Transit Service,** summarizes the transit services located adjacent to the proposed project. The table includes the origins and destinations, operating hours, and headways.

**Table 4.8-1**
**Existing Transit Service**

| Route | From | To | Weekdays Operating Hours | Weekdays Peak Headway (minutes) | Weekends Operating Hours | Weekends Headway (minutes) |
|---|---|---|---|---|---|---|
| **Caltrain** | | | | | | |
| NB | Santa Clara | San Francisco | 4:35 AM – 10:35 PM | 30 | 7:05 AM – 10:35 PM | 60 |
| SB | Santa Clara | San José | 6:20 AM – 1:25 AM (next day) | 30 | 9:35 AM – 1:31 AM (next day) | 60 |
| **ACE** | | | | | | |
| EB | Santa Clara | Stockton | 3:40 PM-6:45 PM | 60 | No Service | |
| WB | Santa Clara | San José | 6:30 AM-9:20 AM | 25 | No Service | |
| **Bus Service VTA** | | | | | | |
| 10 Airport Flyer | San José International Airport | Santa Clara Transit Center | 5:00 AM – 11:35 PM | 15 | 5:30 AM – 11:35 PM | 30 – 60 |
| 22 | Palo Alto / Eastridge Transit Center | | 24 hours | 15 | 24 hours | 25 - 60 |
| 32 | San Antonio Transit Center | | 5:45 AM – 7:15 PM | 30 | 8:50 AM – 5:10 PM | 60 |
| 60 | Winchester/ Old Ironsides Station | | 6:50 AM - 10:40 AM<br>6:00 AM – 9:45 PM | 15 | 8:10 AM – 10:15 PM<br>7:20 AM – 9:20 PM | 30-60 |
| 81 | Vallco / San José | | 6:30 AM – 7:50 PM<br>6:40 AM – 8:40 PM | 30 | 9:50 AM – 3:50 PM<br>9:50 AM – 4:50 PM | 60 |
| 522 | Palo Alto / Eastridge Transit Center | | 5:10 AM – 10:20 PM<br>5:40 AM – 10:40 PM | 15 | 8:00 AM – 10:25 PM<br>8:20 AM – 10:30 PM | 15 - 30 |

*Source: Fehr & Peers, 2015*

## *Valley Transportation Authority*

The nearest VTA bus stop to the project site is located at mid-block on Benton Street between Sherman Street and El Camino Real. VTA local routes that service the transit center include 10, 22, 32, 60, 81, 522 and routes 32, 60 and 81 traverse the southern end of the project site on Benton Street. Route 32 connects the project site with the San Antonio Transit Center in Los Altos running north of the site along Monroe Street, traveling through Sunnyvale, and continuing on the Central Expressway. Route 60 connects the project site to the Winchester Light Rail Transit (LRT) station in Campbell to the south and the Old Ironsides LRT station near Great America Park and the Santa Clara Convention Center to the north.

Route 81 connects the project site to the Vallco Shopping Mall in Cupertino to the west and downtown San José to the east.

### *Caltrain and Altamont Corridor Express*

Caltrain provides intercity passenger rail service between San Francisco and San José, with extended service to Morgan Hill and Gilroy during weekday commute hours, while ACE provides passenger rail service between Stockton and San José. These services stop at the Santa Clara station, which is part of the Santa Clara Transit Center.

### *Amtrak Capitol Corridor*

The Amtrak Capitol Corridor line connects the Santa Clara station with San José to the south and Auburn to the north passing through Oakland, Berkeley, Davis, and Sacramento along the way. Additional bus connections intersect the Capitol Corridor that travel to locations including Monterey, Eureka, Redding, Lake Tahoe, and Reno. Eastbound trains begin on weekdays at 6:46 AM from the Santa Clara station and continue until 7:21 PM with seven trains in total. Westbound trains begin on weekdays at 7:24 AM from the Santa Clara station and continue until 8:42 PM with seven trains in total.

## 4.8.2.3 Bicycle Facilities

Bicycle facilities consist of paths (Class I), lanes (Class II), and routes (Class III). Bicycle facilities within the immediate vicinity (within a 1/2-mile) of the project site are displayed on **Figure 4.8-3, Existing Bicycle Facilities**.

- **Class I Bikeways (Bicycle Paths)** provide a completely separate right-of-way and are designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized. In general, bike paths serve corridors not served by streets and highways or where sufficient right-of-way exists to allow such facilities to be constructed away from the influence of parallel streets and vehicle conflicts.

- **Class II Bikeways (Bicycle Lanes)** are lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes have special lane markings, pavement legends, and signage. Bicycle lanes are generally five feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted.

- **Class III Bikeways (Bicycle Routes)** are designated by signs or pavement markings for shared use with pedestrians or motor vehicles, but have no separated bike right-of-way or lane striping. Bike routes serve either to provide continuity to other bicycle facilities or designate preferred routes through high demand corridors.

**SOURCE:** Fehr & Peers, November 2015

FIGURE **4.8-1**

Project Vicinity

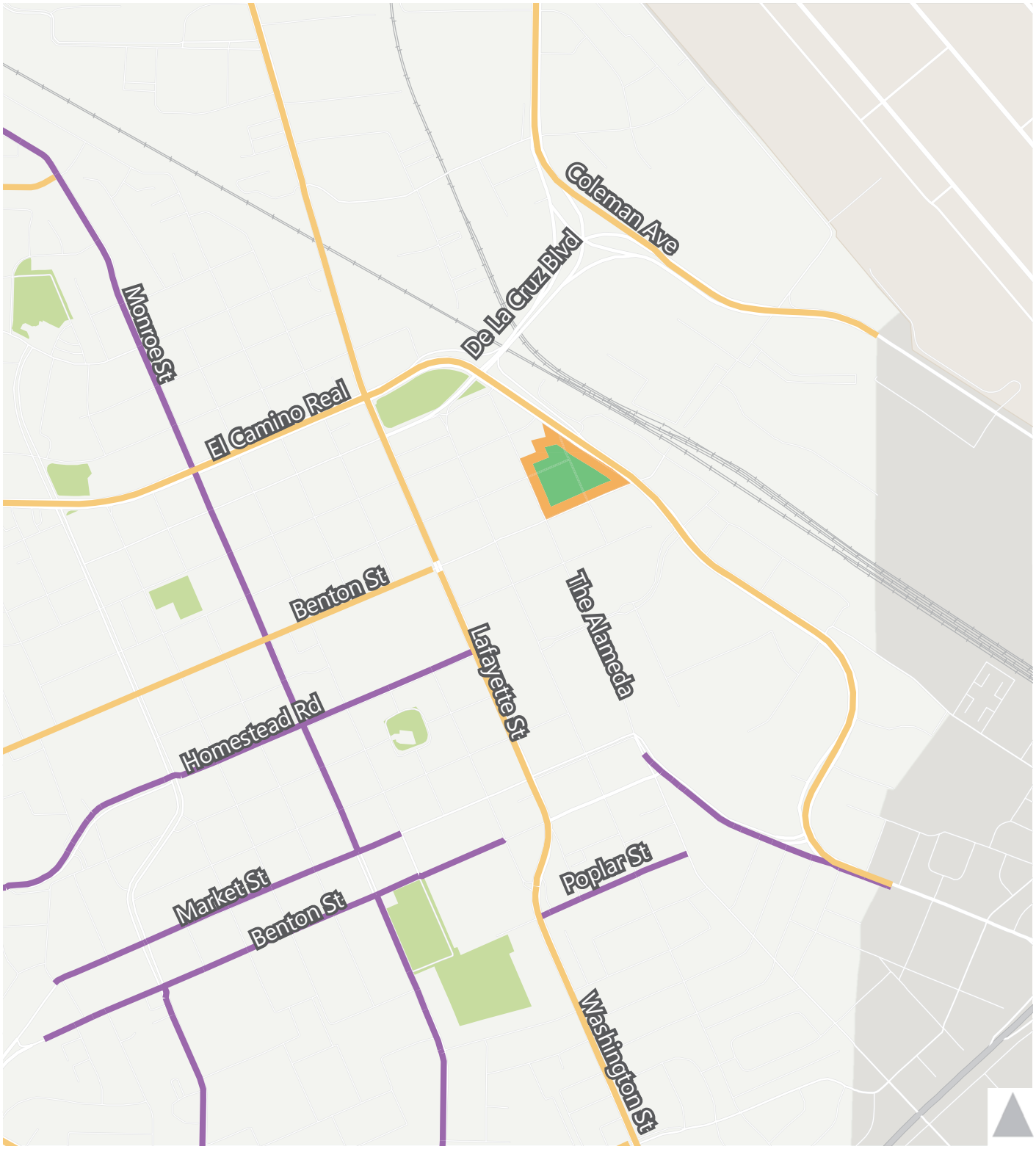
1176.003•11/15

**SOURCE:** Fehr & Peers, November 2015

FIGURE **4.8-2**

Existing Transit Service

1176.003•11/15




Class I Bicycle Path
Class II Bicycle Route
Class III Bicycle Lane
Project Site

**SOURCE:** Fehr & Peers, November 2015

FIGURE **4.8-3**

Existing Bicycle Facilities

1176.003•11/15

No designated bicycle facilities currently access the project site. Benton Street is considered an undesignated street that has an intermediate-level rating for bicycling. Homestead Road (west of its intersection with Lafayette Street) represents the only Class II bicycle lane currently provided in the project area.

#### 4.8.2.4 Pedestrian Facilities

Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. Pedestrian access across El Camino Real is currently limited to Palm Drive, Benton Street, Harrison Street, and Lafayette Street. A signed and marked crosswalk is provided for the unsignalized intersection at Harrison Street and marked crosswalks with pedestrian signals are provided at the signalized intersections.

#### 4.8.2.5 Traffic Operations Analysis

##### *Study Intersections*

Project impacts on the study area roadway facilities were determined by measuring the effect project traffic would have on intersections during the morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak periods. Study intersections were chosen in accordance with *VTA's Transportation Impact Analysis Guidelines (2014)* which suggest that an intersection is evaluated if a project contributes ten peak hour trips per lane during a peak hour. A total of eleven intersections were selected as study locations in consultation with the City of Santa Clara staff and based on VTA's guidelines. The intersection data, including existing traffic counts and configuration, was collected in April 2015. The study intersections and their governing jurisdictions are listed below in **Table 4.8-2, Study Intersections**.

##### *Freeway Segments*

Pursuant to VTA standards, freeway segments are included for analysis if a project is expected to add traffic equal to or greater than one percent of the freeway segment's capacity. Based on this criterion, no freeway segments were analyzed for the proposed project.

##### *Intersection Operation Analysis Method*

The operations of roadway facilities are described with the term level of service ("LOS") a qualitative description of traffic flow based on factors such as speed, travel time, delay, and freedom to maneuver). Six levels are defined from LOS A, as the best operating conditions, to LOS F, or the worst operating conditions. LOS E represents "at-capacity" operations. When traffic volumes exceed the intersection capacity, stop-and-go conditions result, and operations are designated as LOS F.

**Table 4.8-2**
**Study Intersections**

| Intersection | Jurisdiction/CMP[1] |
|---|---|
| 1. Lafayette Street and El Camino Real (signal) | Santa Clara (CMP) |
| 2. Lafayette Street and Lewis Street (signal) | Santa Clara |
| 3. Lafayette Street and Benton Street (signal) | Santa Clara |
| 4. Alviso Street and Harrison Street | Santa Clara |
| 5. The Alameda and Harrison Street | Santa Clara |
| 6. The Alameda and Fremont Street | Santa Clara |
| 7. The Alameda and Benton Street | Santa Clara |
| 8. Sherman Street and Benton Street | Santa Clara |
| 9. El Camino Real and Harrison Street | Santa Clara |
| 10. El Camino Real and Benton Street (signal) | Santa Clara |
| 11. El Camino Real/Project Access | Santa Clara |

*Source: Fehr & Peers, 2015*
*1 Congestion Management Project (CMP) indicates the intersection is part of VTA's CMP monitoring program.*

### Signalized Intersections

The method described in Chapter 16 of the 2000 Highway Capacity Manual (HCM) (Special Report 209, Transportation Research Board) was used to prepare the level of service calculation for the study intersections. This level of service method, which is approved by the City of Santa Clara and VTA, analyzes a signalized intersection's operation based on average control delay per vehicle. Control delay includes the initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay is calculated using TRAFFIX analysis software and is correlated to an LOS designation as shown **Table 4.8-3, Signalized Intersection Level of Service Definitions**.

**Table 4.8-3**
**Signalized Intersection Level of Service Definitions**

| LOS | Description | Average Control Delay Per Vehicle (Seconds) |
|---|---|---|
| A | Operations with very low delay occurring with favorable progression and/or short cycle lengths. | Up to 10.0 |
| B | Operations with low delay occurring with good progression and/or short cycle lengths. | 10.1 to 20.0 |
| C | Operation with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear. | 20.1 to 35.0 |
| D | Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C rations. Many vehicles stop and individual cycle failures are noticeable. | 35.1 to 55.0 |
| E | Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. | 55.1 to 80.0 |
| F | Operations with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths. | Greater than 80.0 |

*Source: Fehr & Peers, 2015*

### Unsignalized Intersections

The operations of the unsignalized intersections were evaluated using the method contained in Chapter 17 of the 2000 HCM. LOS ratings for stop-sign-controlled intersections are based on the average control delay expressed in seconds per vehicle. At two-way or side-street-controlled intersections, the average control delay is calculated for each stopped movement, not for the intersection as a whole. For approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. **Table 4.8-4, Unsignalized Intersection Level of Service Definitions**, summarizes the relationship between delay and LOS for unsignalized intersections.

**Table 4.8-4**
**Unsignalized Intersection Level of Service Definitions**

| LOS | Description | Average Control Delay Per Vehicle (Seconds) |
|---|---|---|
| A | Little or no traffic delay | 10.0 or less |
| B | Short traffic delays | 10.1 to 15.0 |
| C | Average traffic delays | 15.1 to 25.0 |
| D | Long traffic delays | 25.1 to 35.0 |
| E | Very long traffic delays | 35.1 to 50.0 |
| F | Extreme traffic delays with intersection capacity exceeded | greater than 50.0 |

*Source: Fehr & Peers, 2015*

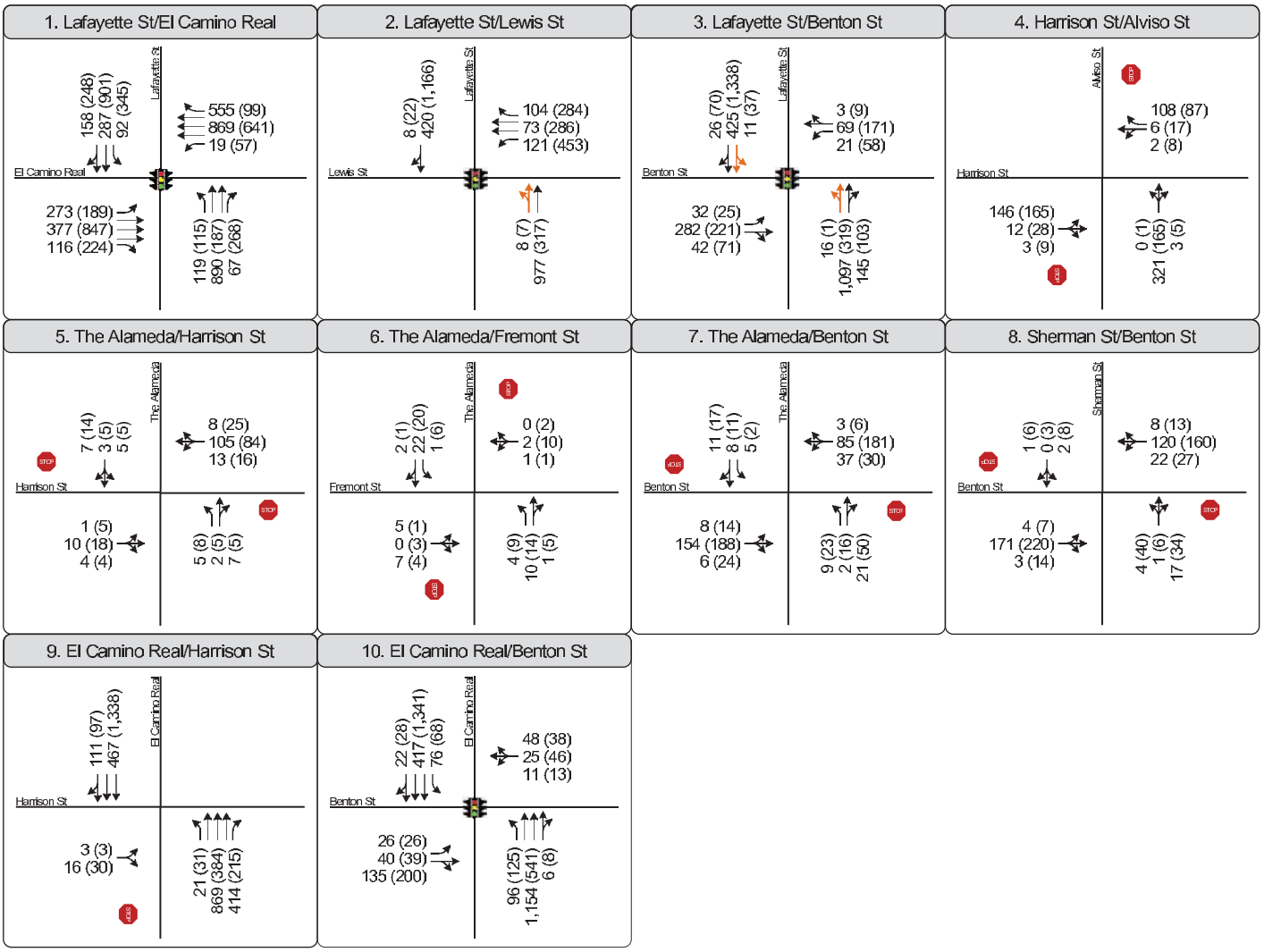
Additionally, the City of Santa Clara and adjacent local jurisdictions apply the *California Manual on Uniform Traffic Control Devices* (CA MUTCD) peak-hour volume signal warrant to intersections operating at LOS F.[1]

- Warrant 3 (Peak hour vehicle volume) - This warrant determines if the minor street traffic suffers undue delay when entering or crossing the major street for a minimum of one hour of an average day. This is based on the major street left turn volume, the higher-volume minor-street approach volume, and calculated delay for vehicles on the higher-volume minor-street approach.

## *Existing Traffic Volumes and Lane Configurations*

The existing operations of the study intersections were evaluated for the highest one-hour volume during the weekday morning and evening peak periods. AM and PM peak-hour intersection turning movement counts were conducted on April 22, 2015. Copies of traffic counts are included in **Appendix 4.8**. **Figure 4.8-4, Existing Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control Devices**, presents the existing AM and PM peak-hour turning movement volumes, lane configurations, and traffic control devices at the study intersections.

[1] Signal warrant analysis is intended to examine the general correlation between the planned level of future development and the need to install new traffic signals. It estimates future development-generated traffic compared to a sub-set of the standard traffic signal warrants recommended in the 2012 California Manual on Uniform Traffic Control Devices (CA MUTCD) guidelines. While satisfying one or more of these warrants could justify the installation of a signal at an intersection, this analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated by an experienced engineer based on field-measured rather than forecast traffic data and a thorough study of traffic and roadway conditions. Furthermore, the decision to install a signal should not be based solely upon the warrants, since the installation of signals may lead to certain types of collisions.




**SOURCE:** Fehr & Peers, November 2015

FIGURE **4.8-4**

Existing Peak Hour Traffic Volumes, Lane Configurations, & Traffic Control Devices

1176.003•11/15

### *Field Observations*

Field observations at the project site and surrounding study intersections were conducted on Tuesday, April 14, 2015 to verify signal operations and observe the overall transportation characteristics. Cycle length and intersection phasing was observed at intersections along Lafayette and Benton Streets and any additional intersection where signal timing needed to be verified from previous intersection analysis performed in the City of Santa Clara.

## 4.8.2.6 Existing Intersection Operations

Existing intersection lane configurations, signal timings, and peak hour turning movement volumes were used to calculate levels of service for the study intersections during the AM and PM peak hours under Existing conditions. The results of the level of service analysis under Existing conditions are summarized in **Table 4.8-5, Existing Conditions – Study Intersection LOS Summary**. LOS calculation sheets are presented in **Appendix 4.8**. The results indicate that all study intersections operate at acceptable service levels (LOS E or better for City intersections) during the AM and PM peak hours.

**Table 4.8-5**
**Existing Conditions[4] – Study Intersection LOS Summary**

| Intersection | Intersection Control | Minimum Acceptable LOS[2] | Peak Hour[3] | Delay[5] | LOS[6] |
|---|---|---|---|---|---|
| 1. Lafayette Street and El Camino Real (signal) | Signal | E | AM<br>PM | 43.4<br>41.1 | D<br>D |
| 2. Lafayette Street and Lewis Street (signal) | Signal | D | AM<br>PM | 10.5<br>33.7 | B<br>C |
| 3. Lafayette Street and Benton Street (signal) | Signal | D | AM<br>PM | 15.4<br>15.1 | B<br>B |
| 4. Alviso Street and Harrison Street | Side-Street Stop Controlled | E (Warrant) | AM<br>PM | 15.5<br>12.6 | C<br>B |
| 5. The Alameda and Harrison Street | Side-Street Stop Controlled | E (Warrant) | AM<br>PM | 9.3<br>9.4 | A<br>A |
| 6. The Alameda and Fremont Street | Side-Street Stop Controlled | E (Warrant) | AM<br>PM | 9.1<br>9.3 | A<br>A |
| 7. The Alameda and Benton Street | Side-Street Stop Controlled | E (Warrant) | AM<br>PM | 10.2<br>11.2 | B<br>B |
| 8. Sherman Street and Benton Street | Side-Street Stop Controlled | E (Warrant) | AM<br>PM | 10.4<br>12.0 | B<br>B |
| 9. El Camino Real and Harrison Street | Side-Street Stop Controlled | E (Warrant) | AM<br>PM | 10.9<br>15.5 | B<br>C |
| 10. El Camino Real and Benton Street (signal) | Signal | D | AM<br>PM | 17.5<br>19.8 | B<br>B |

| Intersection | Intersection Control | Minimum Acceptable LOS[2] | Peak Hour[3] | Delay[5] | LOS[6] |
|---|---|---|---|---|---|
| 11. El Camino Real/Project Access | Side-Street Stop Controlled | E (Warrant) | AM<br>PM | N/A<br>N/A | N/A<br>N/A |

*Source: Fehr & Peers, 2015*
*Notes: N/A indicates the intersection is a project intersection that does not currently exist.*
*1. Minimum Acceptable Threshold is the threshold between acceptable and unacceptable level of service. For unsignalized intersections, an intersection must be lower than the acceptable LOS threshold and meet a peak hour signal warrant.*
*2. AM = morning peak hour, PM = afternoon peak hour*
*3. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections. Total control delay for the worst movement is presented for side-street stop-controlled intersections.*
*4. LOS = Level of Service calculations conducted using the TRAFFIX level of service analysis software package, which applies the methodology described in the 2000 HCM.*

## 4.8.3 REGULATORY CONSIDERATIONS

### 4.8.3.1 Local Plans and Policies

The Santa Clara VTA and City of Santa Clara General Plan provide policies related to transportation that would be applicable to the proposed project.

#### *Santa Clara County VTA*

The VTA is responsible for ensuring local government conformance with the CMP for Santa Clara County, a program aimed at reducing regional traffic congestion. The CMP requires that each jurisdiction identify existing and future transportation facilities that will operate below an acceptable service level and provide mitigation where future growth degrades that service level below identified thresholds. The VTA has review responsibility for proposed development projects that are expected to generate 100 or more additional AM or PM peak-hour trips.

The VTA reviews the adequacy of California Environmental Quality Act (CEQA) analysis and measures to mitigate impacts. The VTA maintains a Countywide traffic model and has approval authority for the use of any local or subarea transportation models. The VTA traffic model provides traffic projections to 2040. Capital improvement programs for transportation projects across Santa Clara County are generally tracked by the VTA, and allocations of major funding programs are performed under the leadership of this agency.

The VTA is responsible for preparing a countywide long-range transportation plan for Santa Clara County. The Valley Transportation Plan (VTA) 2040, adopted by Santa Clara County in 2014, includes funding for major transportation projects. Location-specific improvements for all modes of travel are covered in three major program areas: Highways, Local System, and Transit.

## *City of Santa Clara General Plan*

The City of Santa Clara General Plan contains goals and policies relating to the transportation and traffic in the City. General Plan goals and policies related to transportation are as follows:

**General Mobility and Transportation Goals**

**Goal 5.8.1-G1** Transportation networks that support the General Plan Major Strategies as well as the Goals and Policies for Prerequisites, Land Use, Focus Areas, Neighborhood Compatibility, Public Services, and Environmental Quality.

**Goal 5.8.1-G2** Transportation networks that provide a safe, efficient, convenient, and integrated system to move people and goods.

**Goal 5.8.1-G3** Transportation networks that promote a reduction in the use of personal vehicles and vehicle miles traveled.

**General Mobility and Transportation Policies**

**Policy 5.8.1-P1** Create accessible transportation network systems to meet the needs of all segments of the population, including youth, seniors, persons with disabilities and low-income households.

**Policy 5.8.1-P2** Link all City transportation networks, including pedestrian and bicycle circulation, to existing and planned regional networks.

**Policy 5.8.1-P10** Resolve conflicts between any plans, construction or funding for improvements and the Transportation and Mobility Diagrams or text, including those that alter the classification of a transportation facility, through a General Plan Amendment in order to evaluate the broader implications of the proposal and maintain internal consistency of the Plan.

**Transit Network Policies**

**Policy 5.8.3-P5** Facilitate implementation of the transit system defined in the transit network classifications and illustrated on the Transit Network Diagram in Figure 5.7-2 [of the General Plan].

**Policy 5.8.3-P6** Encourage additional multimodal transit centers and stops in order to provide convenient access to commuter rail, buses, shuttle and taxi services.

**Policy 5.8.3-P7** Provide transit stops at safe, efficient and convenient locations to maximize ridership, including near employment centers, higher-density residential developments and Downtown.

**Policy 5.8.3-P8** Require new development to include transit stop amenities, such as pedestrian pathways to stops, benches, traveler information and shelters.

**Policy 5.8.3-P9** Require new development to incorporate reduced onsite parking and provide enhanced amenities, such as pedestrian links, benches and lighting, in order to encourage transit use and increase access to transit services.

**Policy 5.8.3-P10** Require new development to participate in public/private partnerships to provide new transit options between Santa Clara residences and businesses.

**Bicycle and Pedestrian Network Policies**

**Policy 5.8.4-P2** Provide a system of pedestrian and bicycle friendly facilities that supports the use of alternative travel modes and connects to activity centers as well as residential, office and mixed-use developments.

**Policy 5.8.4-P4** Facilitate implementation of the bicycle and pedestrian classifications as illustrated on the Bicycle and Pedestrian Network Diagram in Figure 5.7-3 [of the General Plan].

**Policy 5.8.4-P5** Design streets to include detached sidewalks with planting strips or wider, attached sidewalks with tree-wells to encourage pedestrian use and safety, as well as to remove barriers and increase accessibility.

**Policy 5.8.4-P6** Require new development to connect individual sites with existing and planned bicycle and pedestrian facilities, as well as with on-site and neighborhood amenities/services, to promote alternate modes of transportation.

**Policy 5.8.4-P7** Require new development to provide sidewalks, street trees and lighting on both sides of all streets in accordance with City standards, including new developments in employment areas.

**Policy 5.8.4-P8** Require new development and public facilities to provide improvements, such as sidewalks, landscaping and bicycling facilities, to promote pedestrian and bicycle use.

**Policy 5.8.4-P9** Encourage pedestrian- and bicycle-oriented amenities, such as bicycle racks, benches, signalized mid-block crosswalks, and bus benches or enclosures.

**Policy 5.8.4-P11** Provide pedestrian crossings that are well-marked using measures, such as audio/visual warnings, bulb-outs and median refuges, to improve safety.

**Policy 5.8.4-P13** Promote pedestrian and bicycle safety through "best practices" or design guidelines for sidewalks, bicycle facilities, landscape strips and other buffers, as well as crosswalk design and placement.

## 4.8.4 IMPACTS AND MITIGATION MEASURES

### 4.8.4.1 Significance Criteria

The impacts of the proposed project related to traffic or transportation would be considered significant if they would exceed any of the following Standards of Significance, in accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*:

- conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- result in inadequate emergency access;
- result in inadequate parking capacity;[2] or

[2] Although this threshold of significance is not included in the current Appendix G Checklist, the City has conservatively included this threshold of significance for parking. Furthermore, and explained in detail in **Section 4.10, Other Topics**, this project meets the definition of an infill project and therefore this EIR is not required to analyze parking impacts (PRC Section 21099(d)(1)).

- conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The determination of the significance of the impacts associated with implementation of the Mission Town Center project is based on applicable policies, regulations, goals, and guidelines defined by the city of Santa Clara and Santa Clara County.

## *Signalized Intersections*

**City of Santa Clara**

Significant impacts at signalized City of Santa Clara intersections would occur if the addition of project traffic causes one of the following:

- Intersection operations to degrade from an acceptable level (LOS D or better) to an unacceptable level (LOS E or F); or
- Exacerbates unacceptable operations (LOS E or F) by increasing the critical delay by more than four seconds and increasing the volume-to-capacity (V/C) ratio by 0.01 or more; or
- An increase in the V/C ratio of 0.01 or more at an intersection with unacceptable operations (LOS E or F) when the change in critical delay is negative (i.e., decreases). This can occur if the critical movements change.

The City of Santa Clara has established a minimum acceptable operation level of LOS D for local streets (City of Santa Clara 2014).

**Santa Clara County and Congestion Management Program (CMP)**

The LOS standard for Santa Clara County (VTA Congestion Management Program, 2013) expressway and CMP intersections is LOS E. Traffic impacts at these intersections would occur if the addition of traffic associated with a project causes:

- Intersection operations to deteriorate from an acceptable level (LOS E or better) to an unacceptable level (LOS F); or
- Exacerbates unacceptable operations by increasing the critical delay movement more than four seconds and increasing the critical volume-to-capacity (V/C) ratio by 0.01 or more at an intersection operating at LOS F; or
- The V/C ratio increases by 0.01 or more at an intersection with unacceptable operations (LOS F) when the change in critical delay is negative (i.e., decreases). This can occur if the critical movements change.

### *Unsignalized Intersections*

Unsignalized study locations are only located within the City of Santa Clara. The City of Santa Clara does not have an officially adopted significance criteria for unsignalized intersections. For purposes of this TIA, significant impacts are defined to occur when the addition of project traffic causes the average intersection delay for all-way stop-controlled intersections or the worst movement/approach for sidestreet stop-controlled intersections to degrade to LOS F and the intersection satisfies the peak hour warrant from the *California Manual of Uniform Traffic Control Devices* (CA MUTCD). This threshold is commonly utilized by cities and counties to evaluate impacts at unsignalized intersections and to avoid the premature installation of signals where unwarranted.

## 4.8.4.2 Issues Not Discussed Further

The project site is located approximately 0.5 miles from the San José International Airport and 6 miles from Moffett Federal Airfield. According to the Comprehensive Land Use Plan (CLUP) for the San José International Airport, while the project site is not located within the vicinity of the approaches for the airport, it is located within the identified flight paths for the airport and falls within the airport's FAR Part 77 Surfaces 212 feet (above MSL) height restriction zone. As the proposed structure would reach a maximum height of about 150 feet above MSL, the proposed project would not exceed the 212-foot height restriction, and thus would not interfere with or change existing air traffic patterns. The proposed project also would comply with FAR Part 77 Subpart B, which requires projects to notify the FAA of construction or alterations near airports. The identified flight paths and approaches for Moffett Federal Airfield are well away from the project site, and thus the proposed project would not interfere with or change existing air traffic patterns at this facility. No further analysis of this issue is required.

## 4.8.4.3 Methodology

The impacts of the proposed project on the surrounding transportation system are evaluated using the guidelines provided by the City of Santa Clara and VTA. The operations of 11 study intersections are evaluated with level of service calculations during the weekday morning (AM) and evening (PM) peak period for the nine scenarios listed below:

**Scenario 1a:** Existing Conditions

**Scenario 1b:** Existing with Project Conditions

**Scenario 2a:** Background (2020) Conditions

**Scenario 2b:** Background (2020) with Project Conditions

**Scenario 3a:** Cumulative (2040) Conditions

**Scenario 3b:** Cumulative (2040) with Project Conditions

A description of the methods used to estimate the amount of traffic generated by the proposed project is provided below. The project-specific impacts and the proposed project's contribution to cumulative impacts are described below under subsection **Impacts and Mitigation Measures.**

## *Scenario 1: Existing Conditions*

Existing conditions are defined as current traffic conditions based on intersection turning movement counts and intersection geometry. Existing levels of service at the study intersections are presented for informational purposes in **Table 4.8-5**.

## *Scenario 1b: Existing with Project Conditions*

Existing with Project Conditions is defined as existing volumes plus traffic generated by the proposed project. A description of project trip generation, distribution and assignment is provided below.

### *Project Trip Generation*

The project's trip generation is the net new traffic produced by the proposed project. This is determined by calculating the difference between (a) the number of trips generated by the existing land uses on the project site, and (b) the number of trips that would be generated by the proposed project.

Because the project site and surrounding area contains a mix of land uses, it is appropriate to determine the number of trips generated by the proposed project and the existing uses by applying the MainStreet trip generation tool, developed by Fehr & Peers with the US Environmental Protection Agency (EPA). MainStreet incorporates research from the Federal Highway Administration (FHWA) about mixed-use developments and trips made by alternate modes and addresses concerns that typical trip generation rates, such as those published in the ITE Trip Generation Manual, over estimate trips for mixed-use projects. Trip generation rates published by ITE are based on single-use sites and have been shown to overestimate peak traffic generation for mixed-use developments by an average of 35 percent. Unlike the ITE method, MainStreet takes into account development density, scale, design, accessibility, transit proximity, demographics, surrounding land use and mix of internal uses, all of which affect site traffic generation. MainStreet takes statistical mixed-use development research and applies a reduction to the project trip generation rates, such as those from the ITE Trip Generation Manual, based on these site characteristics and the surrounding land use and infrastructure.

Vehicle trip generation for the proposed project was estimated using a combination of: (1) standard rates developed by the Institute of Transportation Engineers (ITE) and published in Trip Generation Manual (9th Edition) and (2) trip generation reduction rates for mixed-use sites produced from the calibrated Fehr & Peers' MainStreet tool based on internal and surrounding land use. A summary of the data used to determine trip reduction rates can be found in **Table 4.8-6, Summary of Data Sources for Project Mixed-Use Reductions (MainStreet Tool)**.

**Table 4.8-6**
**Summary of Data Sources for Project Mixed-Use Reductions (MainStreet Tool)**

| Input Variable | Existing | Proposed | Source |
|---|---|---|---|
| **Geographic** | | | |
| Project Area (acres) | 5.7 | 5.7 | Site Plan |
| Intersections within or on the Perimeter of the Project Site | 4 | 5 | Existing (Under Construction) Area, Site Plan |
| Transit Available at Site | Bus, Rail | Bus, Rail | Existing (Under Construction) Area, Site Plan |
| **Land Use – Surrounding Area** | | | |
| Employment within One Mile of Project Site | 9,104 | 9,104 | VTA 2013 Travel Model |
| Employment with a 30 Minute Transit Stop | 44,122 | 44,122 | VTA 2013 Travel Model |
| Total Regional Employment | 3,475,787 | 3,475,787 | VTA 2013 Travel Model |
| **Site Demographics** | | | |
| Average Household Size near Project Site | 2.69 | 2.69 | City of Santa Clara |
| Average Vehicle Ownership near Project Site | 1.44 | 1.44 | American Community Survey 2012 – Five Year for Survey for Project Tract |
| **Land Use Inputs** | | | |
| Single-Family (Dwelling Units) | 6 | 0 | Existing Area |
| Mini Storage (Square Feet) | 88,100 | 0 | Existing Area |
| Multi-Family (Dwelling Units) | 4 | 385 | Existing Area, Site Plan |
| Office (Square Feet) | 5,327 | 0 | Existing Area |
| Sit Down Restaurant (Square Feet) | 3,890 | 0 | Existing Area |
| Auto Care Center (Square Feet) | 3,890 | 0 | Existing Area |
| Retail (Square Feet) | 0 | 27,000 | Site Plan |

*Source: Fehr & Peers, 2015*

As this site is located adjacent to transit, mixed-uses, and Santa Clara University its trip generation pattern is likely to deviate from the data collection sites where rates from ITE were drawn. For this reason the MainStreet mixed-use development tool was utilized as part of this analysis. The mixed-use trip reductions can be seen in **Table 4.8-7, Project Trip Generation**, and yield the final trip generation estimates for both proposed project (A) and existing conditions (B) that are subtracted from one another

to yield the net new vehicle trips. It should be noted that the existing Mondo Burrito currently opens at 11:00 AM and therefore no AM peak hour trips were estimated for this land use.

In order to calculate the vehicle trip generation attributed to the proposed project, trip generation rates were first determined using standard ITE trip generation rates. Using only ITE trip generation rates, the proposed project would generate approximately 3,713 daily vehicle trips, 262 AM peak hour vehicle trips (81 inbound and 181 outbound) and 329 PM peak hour vehicle trips (197 inbound and 132 outbound).

Next, the MainStreet tool was used to determine the appropriate reductions to the standard trip generation rates for the proposed project due to its mixed-use nature and complementary land uses surrounding the project site. Based on the inputs shown in **Table 4.8-6**, the MainStreet tool calculated a reduction of 34, 45, and 42 percent for daily, AM peak hour, and PM peak hour, respectively. Based on application of the MainStreet tool, the proposed project is estimated to generate 2,440 daily vehicle trips, 145 AM peak hour vehicle trips (45 inbound and 100 outbound) and 191 PM peak hour vehicle trips (114 inbound and 77 outbound).

The existing land uses were then accounted for in the project trip generation. MainStreet was used to determine the trip reduction from the existing land uses trip generation. Although the existing land uses do not exhibit the same mixed-use nature as the proposed development, their close proximity to transit should lower their vehicle trip generation compared to the sample sites used to generate the ITE rate. The methodology was also applied to maintain consistent trip generation methodologies between existing and project land use. The MainStreet trip reduction from the existing land uses is smaller than the proposed land uses because there are fewer attractions within walking, bicycling, or transit distance.

The net new trip generation results are summarized in **Table 4.8-7**. The proposed project is estimated to generate 1,725 net new daily trips, 119 net new AM peak-hour trips (30 inbound and 89 outbound), and 126 net new PM peak hour trips (80 inbound and 46 outbound).

***Trip Distribution and Assignment***

Trip distribution is defined as the directions of approach and departure that vehicles would use to arrive at and depart from the site. The directions of approach and departure of project trips were based on the locations of complementary land uses, existing and future travel patterns in the area, and proposed site access. The trip distribution pattern is shown in **Figure 4.8-5, Project Trip Distribution**.

Project trips were assigned to the roadway network based on the established trip distribution. **Figure 4.8-6, Project Trip Assignment**, shows the AM and PM peak hour project trips assigned to each turning movement at the study intersections.

**Table 4.8-7**
**Project Trip Generation**

| Land Use Type | ITE Code | Size | Units | Weekday Trips | AM Peak Hour Trips In | AM Peak Hour Trips Out | AM Peak Hour Trips Total | PM Peak Hour Trips In | PM Peak Hour Trips Out | PM Peak Hour Trips Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Proposed Land Use** | | | | | | | | | | |
| Residential - Apartments | 220 | 385.00 | du | 2,560 | 38 | 154 | 192 | 149 | 80 | 229 |
| Retail | 820 | 27.00 | ksf | 1,153 | 43 | 27 | 70 | 48 | 52 | 100 |
| | | | *Subtotal* | *3,713* | *81* | *181* | *262* | *197* | *132* | *329* |
| | *Mixed-Use Trip Reduction* | | | *34%* | *45%* | *45%* | *45%* | *42%* | *42%* | *42%* |
| | *Project Subtotal (A)* | | | *2,440* | *45* | *100* | *145* | *114* | *77* | *191* |
| **Existing Land Use[4]** | | | | | | | | | | |
| Residential - Single Family | 210 | 6.00 | du | 57 | 1 | 4 | 5 | 4 | 2 | 6 |
| Residential - Apartments | 220 | 4.00 | du | 27 | 0 | 2 | 2 | 1 | 1 | 2 |
| Mini Warehousing | 151 | 88.10 | ksf | 220 | 7 | 5 | 12 | 12 | 11 | 23 |
| Office | 710 | 5.33 | ksf | 59 | 7 | 1 | 8 | 1 | 7 | 8 |
| Sit Down Restaurant | 932 | 3.89 | ksf | 495 | Closed until 11 AM | | | 23 | 15 | 38 |
| Auto Care Center | 942 | 3.89 | ksf | 46 | 6 | 3 | 9 | 6 | 6 | 12 |
| | | | *Subtotal* | 877 | 21 | 15 | 36 | 47 | 42 | 89 |
| | *Mixed-Use Trip Reduction* | | | 18% | 27% | 27% | 27% | 27% | 27% | 27% |
| | *Existing Land Use Subtotal (B)* | | | 715 | 15 | 11 | 26 | 34 | 31 | 65 |
| **Net New Project Trip Generation (A)-(B)** | | | | **1,725** | **30** | **89** | **119** | **80** | **46** | **126** |

*Source: Fehr & Peers, 2015*
*Notes: du = dwelling units; ksf = 1,000 square feet*

## *Scenario 2a: Background (2020) Conditions*

Background (2020) conditions are defined as Year 2020 traffic volumes from the citywide traffic model, including Association of Bay Area Governments (ABAG) 2020 land use projections with under construction and approved projects, and planned and funded transportation system improvements for 2020 in the Valley Transportation Plan (VTP).

## *Scenario 2b: Background (2020) with Project Conditions*

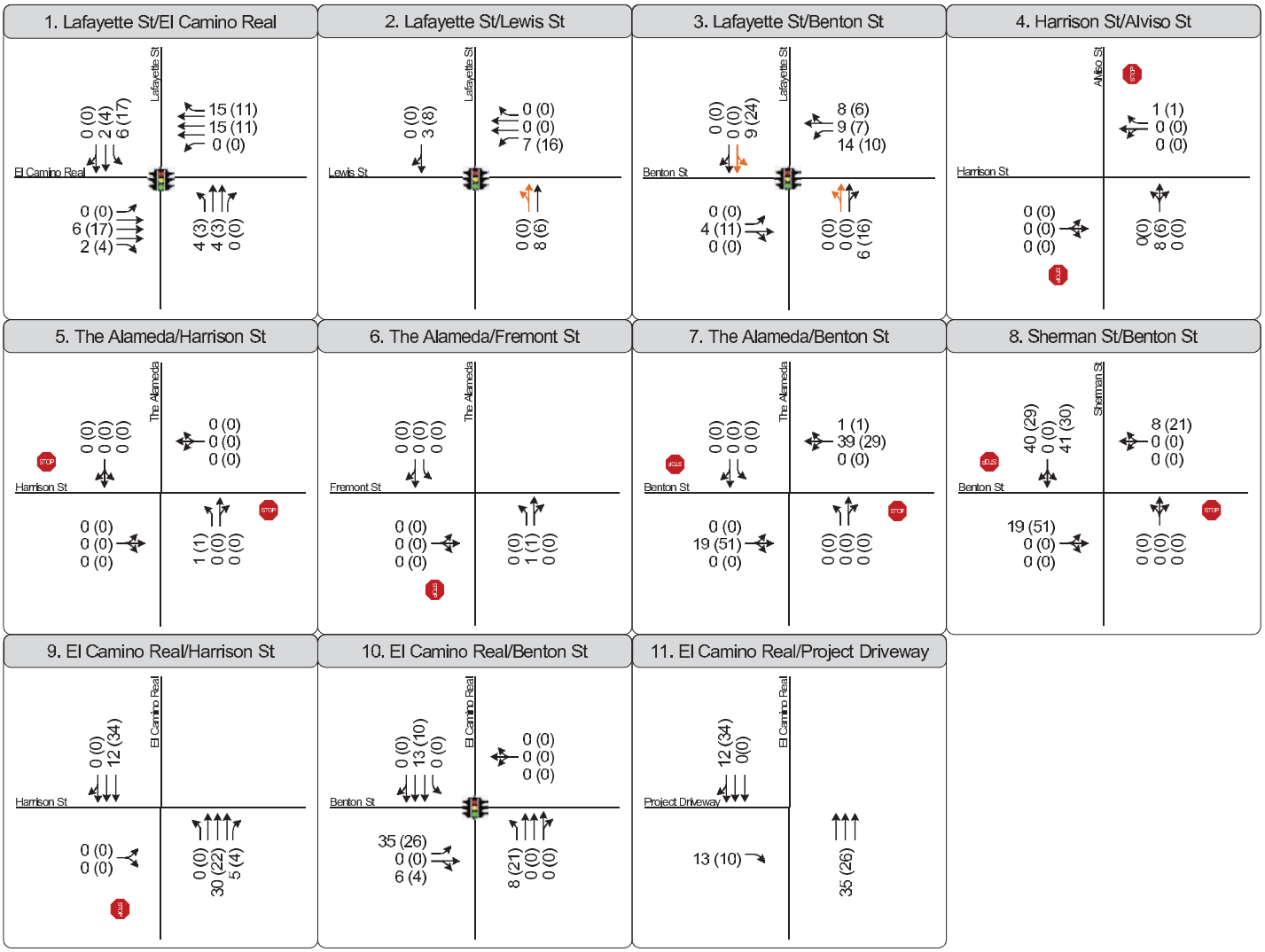
Background (2020) with project conditions are defined as Background (2020) without project conditions plus traffic generated by build-out of the proposed project and transportation network infrastructure proposed by the proposed project.

**SOURCE:** Fehr & Peers, November 2015

FIGURE **4.8-5**

Project Trip Distribution

1176.003•11/15




**SOURCE:** Fehr & Peers, November 2015

FIGURE **4.8-6**

Project Trip Assignment

1176.003•11/15

### *Scenario 3a: Cumulative (2040) Conditions*

Cumulative (2040) without project conditions are defined as Year 2040 traffic volumes based on forecasts from the citywide traffic model which is based on the VTA's traffic model and includes Association of Bay Area Governments (ABAG) 2040 land use projections with under construction, approved and pending projects (including City Place), and planned and funded transportation system improvements for 2040 in the Valley Transportation Plan (VTP). The Year 2040 was used to evaluate cumulative impacts because that is the farthest year for which the VTA traffic model provides projected traffic volumes.[3]

### *Scenario 3b: Cumulative (2040) with Project Conditions*

Cumulative (2040) with project conditions are defined as Cumulative (2040) without project conditions plus traffic generated by the build-out of the proposed project and transportation network infrastructure proposed by the proposed project.

## 4.8.4.4 Project Impacts and Mitigation Measures

**Impact TRANS-1: Development of the proposed project would not conflict with the applicable standards adopted by the local jurisdictions to evaluate the performance of CMP and non-CMP intersections under existing conditions. (*Less than Significant)***

To determine the potential impact of the Mission Town Center project on each study intersection, project traffic volumes were added to existing traffic conditions. As shown in **Table 4.8-7**, the proposed project would add 119 net vehicle trips during the AM peak hour and 126 net vehicle trips during the PM peak hour to the study area road network. The effects of these additional vehicle trips on intersection levels of service were calculated for the project conditions and the resulting levels of service are presented in **Table 4.8-8, Existing with Project Intersection Levels of Service**. Traffic volumes and land configurations under this scenario are shown in **Figure 4.8-7, Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Project**. The traffic added by the proposed project would not cause the level of service at any of the study intersections to drop to an unacceptable level. Therefore, the proposed project's impact under existing with project conditions would be less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

3 Please note that the City of Santa Clara General Plan planning horizon extends to 2035.

**Table 4.8-8**
**Existing with Project Intersection Levels of Service**

| Intersection | Intersection Control | Minimum Acceptable LOS[1] | Peak Hour[2] | No Project Delay[3] | No Project LOS[4] | Plus Project Delay[3] | Plus Project LOS[4] | Difference Change in Critical V/C[5] | Difference Change in Critical Delay[6] |
|---|---|---|---|---|---|---|---|---|---|
| 1. Lafayette Street and El Camino Real | Signal | E | AM | 43.4 | D | 43.6 | D | 0.011 | 0.6 |
| | | | PM | 41.1 | D | 41.3 | D | 0.004 | 0.2 |
| 2. Lafayette Street and Lewis Street | Signal | D | AM | 10.5 | B | 10.7 | B | 0.006 | 0.3 |
| | | | PM | 33.7 | C | 35.4 | D | 0.014 | 2.8 |
| 3. Lafayette Street and Benton Street | Signal | D | AM | 15.4 | B | 15.6 | B | 0.004 | 0.0 |
| | | | PM | 15.1 | B | 15.4 | B | 0.012 | 0.4 |
| 4. Alviso Street and Harrison Street | Side-Street Stop Controlled | E (Warrant) | AM | 15.5 | C | 15.7 | C | N/A | N/A |
| | | | PM | 12.6 | B | 12.7 | B | N/A | N/A |
| 5. The Alameda and Harrison Street | Side-Street Stop Controlled | E (Warrant) | AM | 9.3 | A | 9.3 | A | N/A | N/A |
| | | | PM | 9.4 | A | 9.5 | A | N/A | N/A |
| 6. The Alameda and Fremont Street | Side-Street Stop Controlled | E (Warrant) | AM | 9.1 | A | 8.6 | A | N/A | N/A |
| | | | PM | 9.3 | A | 8.8 | A | N/A | N/A |
| 7. The Alameda and Benton Street | Side-Street Stop Controlled | E (Warrant) | AM | 10.2 | B | 10.5 | B | N/A | N/A |
| | | | PM | 11.2 | B | 11.8 | B | N/A | N/A |
| 8. Sherman Street and Benton Street | Side-Street Stop Controlled | E (Warrant) | AM | 10.4 | B | 10.9 | B | N/A | N/A |
| | | | PM | 12.0 | B | 12.8 | B | N/A | N/A |
| 9. El Camino Real and Harrison Street | Side-Street Stop Controlled | E (Warrant) | AM | 10.9 | B | 11.0 | B | N/A | N/A |
| | | | PM | 15.5 | C | 15.9 | C | N/A | N/A |
| 10. El Camino Real and Benton Street | Signal | D | AM | 17.5 | B | 17.9 | B | 0.003 | 0.2 |
| | | | PM | 19.8 | B | 20.1 | C | 0.011 | 0.5 |
| 11. El Camino Real and Project Access | Side-Street Stop Controlled | E (Warrant) | AM | N/A | N/A | 9.4 | A | N/A | N/A |
| | | | PM | N/A | N/A | 12.1 | B | N/A | N/A |

| Intersection | Intersection Control | Minimum Acceptable LOS[1] | Peak Hour[2] | No Project | | Plus Project | | Difference | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay[3] | LOS[4] | Delay[3] | LOS[4] | Change in Critical V/C[5] | Change in Critical Delay[6] |

*Source: Fehr & Peers, 2015*

*Notes: N/A indicates the intersection is a project intersection that does not currently exist.*

*1. Minimum Acceptable Threshold is the threshold between acceptable and unacceptable level of service. For unsignalized intersections, an intersection must be lower than the acceptable LOS threshold and meet a peak hour signal warrant.*

*2. AM = morning peak hour, PM = afternoon peak hour*

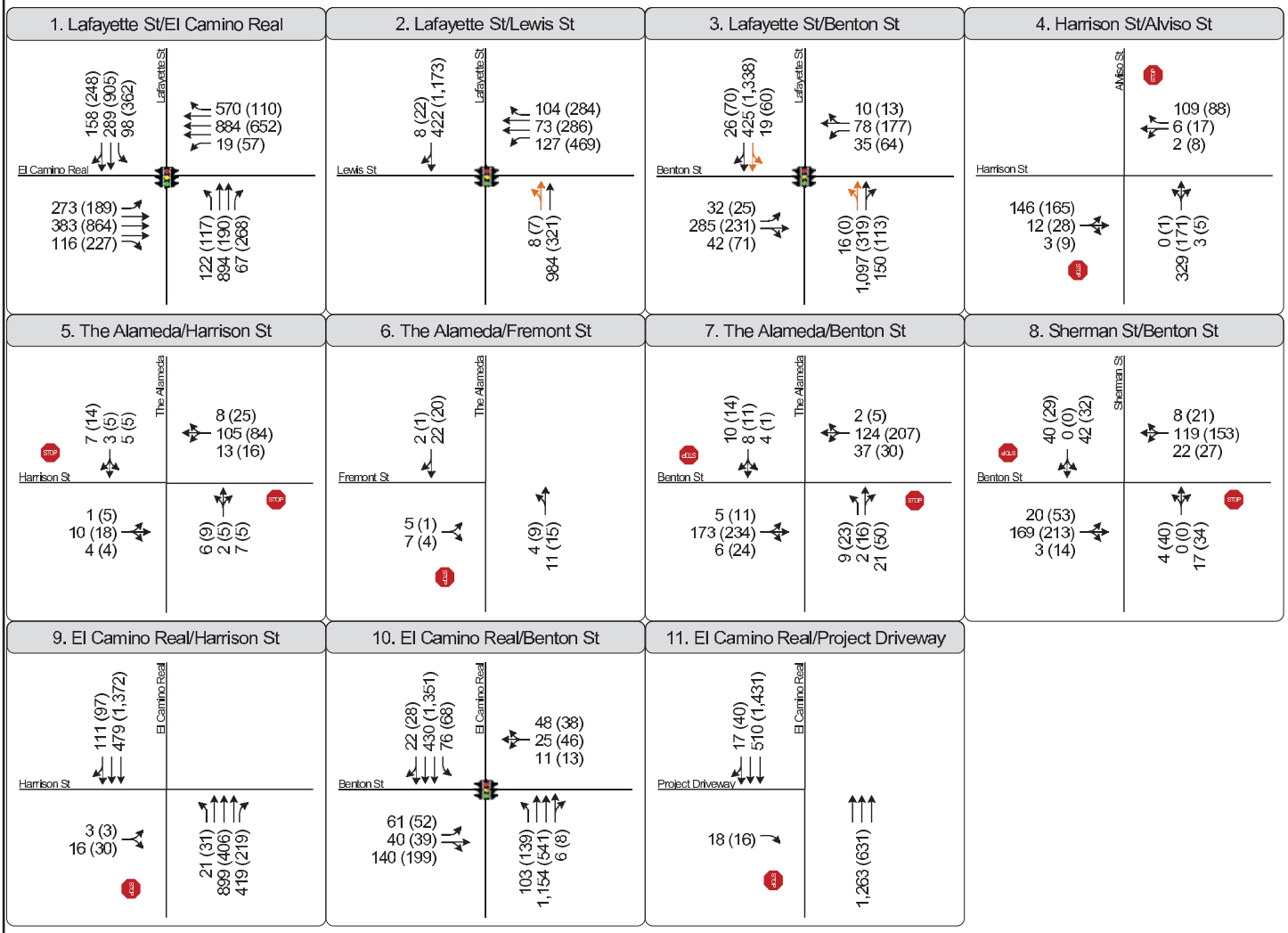
*3. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections. Total control delay for the worst movement is presented for side-street stop-controlled intersections.*

*4. LOS = Level of Service calculations conducted using the TRAFFIX level of service analysis software package, which applies the methodology described in the 2000 HCM.*

*5. Change in critical volume-to-capacity ratio (V/C) between Existing and Existing plus Project Conditions.*

*6. Change in critical movement delay between Existing and Existing plus Project Conditions.*

***Bold** font indicates unacceptable operations. **Bold and highlighted** indicates a significant impact.*




**SOURCE:** Fehr & Peers, November 2015

FIGURE **4.8-7**

Peak Hour Traffic Volumes and Lane Configurations-Existing Plus Project

1176.003•11/15

**Impact TRANS-2: Development of the proposed project would conflict with the applicable standards adopted by the local jurisdictions to evaluate the performance of CMP and non-CMP intersections under Background (2020) conditions. (*Significant; Significant and Unavoidable)***

Project traffic volumes were added to background traffic volumes to obtain Background (2020) with proposed project traffic volumes. The results of the intersection level of service analysis under Background with project conditions are summarized in **Table 4.8-9, Background (2020) with Project Intersection Levels of Service**. Traffic volumes and lane configurations under this scenario are shown in **Figure 4.8-8, Peak Hour Traffic Volumes and Lane Configurations – Background (2020) Plus Project**.

As noted above, a significant impact at a City of Santa Clara intersection would occur if: (1) the addition of project traffic causes intersection operations to degrade from an acceptable level (LOS D or better) to an unacceptable level (LOS E or F); or (2) exacerbates unacceptable operations (LOS E or F) by increasing the critical delay by more than four seconds and increasing the volume-to-capacity (V/C) ratio by 0.01 or more; or (3) causes an increase in the V/C ratio of 0.01 or more at an intersection with unacceptable operations (LOS E or F) when the change in critical delay is negative (i.e., decreases).

Based on these impact criteria, 10 of the 11 study intersections would not experience a significant impact. However, the proposed project would have a potentially significant impact at the intersection of Lafayette and Lewis Streets. This intersection would operate at LOS F during the PM peak hour under Background conditions. As the addition of project traffic would increase the critical delay at the intersection by 5.9 seconds and would increase the critical V/C ratio by 0.013 during the PM peak hour, the impact of the proposed project at this intersection is considered significant. Due to the existing transportation system and reversible land along Lafayette Street, any change to the intersection alignment would adversely affect operations along this corridor. As a result, there are no feasible improvements available at this intersection, and the impact of the proposed project at this intersection is considered significant and unavoidable.

**Mitigation Measures:** No mitigation is feasible.

**Significance after Mitigation**: Significant and unavoidable

**Table 4.8-9**
**Background (2020) with Project Intersection Levels of Service**

| Intersection | Intersection Control | Minimum Acceptable LOS[1] | Peak Hour[2] | No Project Delay[3] | No Project LOS[4] | Plus Project Delay[3] | Plus Project LOS[4] | Difference Change in Critical V/C[5] | Difference Change in Critical Delay[6] |
|---|---|---|---|---|---|---|---|---|---|
| 1. Lafayette Street and El Camino Real | Signal | E | AM | 57.0 | E | 58.3 | E | 0.010 | 2.5 |
| | | | PM | 51.7 | D | 52.3 | D | 0.005 | 0.8 |
| 2. Lafayette Street and Lewis Street | Signal | D | AM | 9.6 | A | 9.8 | A | 0.005 | 0.3 |
| | | | **PM** | **83.6** | **F** | **87.5** | **F** | **0.013** | **5.9** |
| 3. Lafayette Street and Benton Street | Signal | D | AM | 16.0 | B | 16.3 | B | 0.003 | 0.1 |
| | | | PM | 15.3 | B | 15.8 | B | 0.012 | 0.5 |
| 4. Alviso Street and Harrison Street | Side-Street Stop Controlled | E (Warrant) | AM | 16.5 | C | 16.7 | C | N/A | N/A |
| | | | PM | 12.7 | B | 12.8 | B | N/A | N/A |
| 5. The Alameda and Harrison Street | Side-Street Stop Controlled | E (Warrant) | AM | 9.3 | A | 9.3 | A | N/A | N/A |
| | | | PM | 9.4 | A | 9.4 | A | N/A | N/A |
| 6. The Alameda and Fremont Street | Side-Street Stop Controlled | E (Warrant) | AM | 91. | A | 8.6 | A | N/A | N/A |
| | | | PM | 9.3 | A | 8.9 | A | N/A | N/A |
| 7. The Alameda and Benton Street | Side-Street Stop Controlled | E (Warrant) | AM | 10.4 | B | 10.8 | B | N/A | N/A |
| | | | PM | 11.5 | B | 12.1 | B | N/A | N/A |
| 8. Sherman Street and Benton Street | Side-Street Stop Controlled | E (Warrant) | AM | 10.6 | B | 11.2 | B | N/A | N/A |
| | | | PM | 12.4 | B | 13.6 | B | N/A | N/A |
| 9. El Camino Real and Harrison Street | Side-Street Stop Controlled | E (Warrant) | AM | 11.6 | B | 11.7 | B | N/A | N/A |
| | | | PM | 19.3 | C | 19.9 | C | N/A | N/A |
| 10. El Camino Real and Benton Street | Signal | D | AM | 17.1 | B | 17.4 | B | 0.003 | 0.2 |
| | | | PM | 19.9 | B | 20.2 | C | 1.010 | 0.5 |
| 11. El Camino Real and Project Access | Side-Street Stop Controlled | E (Warrant) | AM | N/A | N/A | 9.6 | A | N/A | N/A |
| | | | PM | N/A | N/A | 12.8 | B | N/A | N/A |

| Intersection | Intersection Control | Minimum Acceptable LOS[1] | Peak Hour[2] | No Project | | Plus Project | | Difference | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay[3] | LOS[4] | Delay[3] | LOS[4] | Change in Critical V/C[5] | Change in Critical Delay[6] |

*Source: Fehr & Peers, 2015*

*Notes: N/A indicates that these parameters is not valid for unsignalized intersections.*

*1. Minimum Acceptable Threshold is the threshold between acceptable and unacceptable level of service. For unsignalized intersections, an intersection must be lower than the acceptable LOS threshold and meet a peak hour signal warrant.*

*2. AM = morning peak hour, PM = afternoon peak hour*

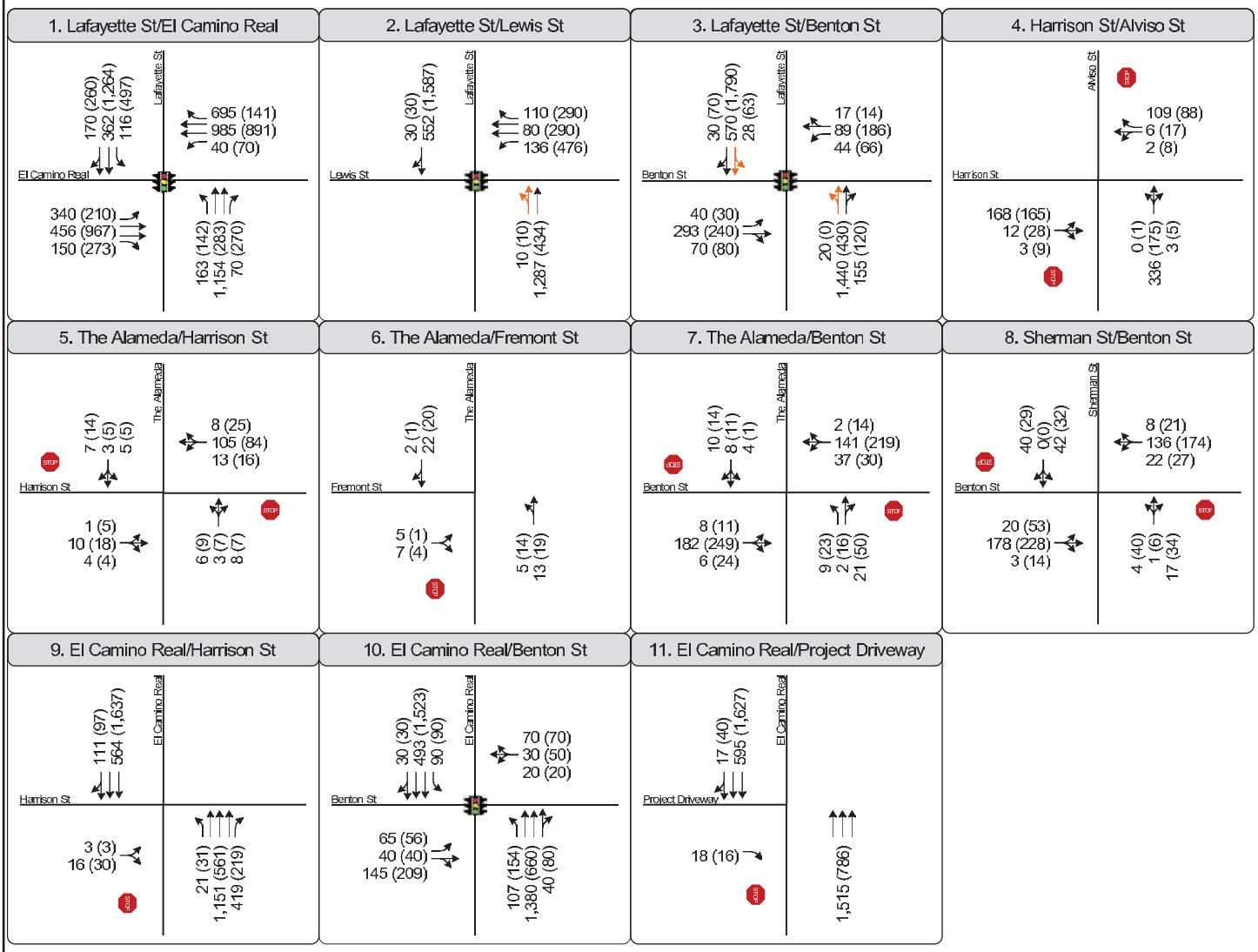
*3. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections. Total control delay for the worst movement is presented for side-street stop-controlled intersections.*

*4. LOS = Level of Service calculations conducted using the TRAFFIX level of service analysis software package, which applies the methodology described in the 2000 HCM.*

*5. Change in critical volume-to-capacity ratio (V/C) between Background and Background plus Project Conditions.*

*6. Change in critical movement delay between Background and Background plus Project Conditions.*

***Bold** font indicates unacceptable operations. **Bold and highlighted** indicates a significant impact.*




**SOURCE:** Fehr & Peers, November 2015

FIGURE **4.8-8**

Peak Hour Traffic Volumes and Lane Configurations-Background (2020) Plus Project

1176.003•11/15

**Impact TRANS-3: Development of the proposed project would not result in a hazard due to a design feature. (*Less than Significant*)**

The proposed project would be required to comply with the City's design standards and the design standards in the *Uniform Fire Code*. Required compliance with these existing standards would prevent hazardous design features and would ensure adequate and safe access. The project includes several transportation improvements, including an upgraded signal at the intersection of El Camino Real and Benton Street, the widening of sidewalks along Benton Street, El Camino Real, and The Alameda, the relocation of an existing bus stop from its current location at the corner of Benton Street and El Camino Real to the corner of Benton Street and The Alameda, and various bicycle and pedestrian enhancements as seen on **Figure 3.0-11, Circulation Plan**. The project applicant will work with the City to design and construct off site queuing for the parking garage to minimize unusual traffic congestion and delay. The traffic study indicated that the intersections adjacent to the project site would operate at acceptable levels of service under both Existing and Background (2020) conditions. This impact is considered less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

**Impact TRANS-4: Development of the proposed project would not result in inadequate emergency access. (*Less than Significant*)**

The issue of emergency access considers both the regional accessibility of the project site and access within the site itself. From a regional perspective, existing roadways provide adequate access to the project site. Emergency vehicles can access the project site via roadways from each of the cardinal directions, including Benton Street, El Camino Real, The Alameda, and Harrison Street. Once emergency vehicles have reached the project site, the ramps within the parking structure are adequate to allow these vehicles to access the entire site. As a result, development of the proposed project would not result in inadequate emergency access, and this impact is considered less than significant.

**Mitigation Measures:** No mitigation measures are required.

---

**Impact TRANS-5: Development of the proposed project would not conflict with policies, programs or plans for alternate transportation. (*Less than Significant*)**

## *Transit*

Existing transit stops in the project area typically exhibit only the minimum amount of amenities required by VTA standards (i.e., benches). The proposed project will generate demand for transit services and will provide additional amenities at transit stops adjacent to the project site, including bus pullouts, benches, shelter, lighting, and landscaping. These amenities would increase the attractiveness of VTA transit within the surrounding community, helping reduce vehicle trips to and through the area. Amenities such as shelters, effective lighting, and benches that complement the surrounding architecture and landscape would be consistent with VTA designs and plans to improve street frontages in the project area and mitigate the effects of the non-significant increase in delays to transit operations on Benton Street and other roadways with transit services. Therefore, development of the proposed project would not conflict with applicable transit policies, and this impact is less than significant. For additional information on transit, see Chapter 9 of the TIA.

## *Bicycle and Pedestrian*

The proposed project will provide a Class II bike lane along Benton Street and a Class III bike route (sharrows) along The Alameda. In addition, proposed project will widen the sidewalks along Benton Street, El Camino Real, and The Alameda to encourage pedestrian access. Furthermore, lighting will be provided along all the sidewalks adjacent to the project site to enhance safety at nighttime. Finally, to promote the use of bicycles, the proposed project will provide bicycle racks and bicycle storage facilities. Specifically, the proposed project includes 133 Class 1 bicycle parking spaces, and 32 Class 2 Bicycle parking spaces. For these reasons, development of the proposed project would not conflict with the policies listed in the City General Plan that promote bicycle and pedestrian use, and this impact is less than significant. For additional information on bicycle and pedestrian facilities, see Chapter 9 of the TIA.

## *Parking*

A significance threshold for parking, and parking as an environmental impact, has been removed from Appendix G of the *State CEQA Guidelines*, and an analysis of parking is not required. Furthermore, in September 2013, Governor Brown signed Senate Bill 743, which made several changes to CEQA for projects located in areas served by transit (i.e., transit-oriented development or TOD). One of the changes included a provision to exempt from analysis the parking impacts of the project if the proposed project is a "residential, mixed-use residential, or employment center project on an infill site within a transit priority area." An infill site is defined by SB 743 as "a lot located within an urban area that has been

previously developed" while a transit priority area is defined by the statute as "an area within one-half mile of a major transit stop."

All of the lots that make up the project site are completely developed and are surrounded by existing development. In addition, the project consists of a mixed-use residential community that is located within 500 feet of the Santa Clara Transit Center, which is a major transit stop in the City. For these reasons, the proposed project qualifies for this exemption, and the analysis below is provided for informational purposes only and to assess compliance with City parking standards.

The Santa Clara City Code requires that parking for each residential unit shall be one and 1.5 spaces for each one bedroom unit, and 2.0 spaces for each two-plus bedroom unit (Santa Clara City Code Section 18.22.040) and 10 percent additional for visitor parking (Santa Clara City Code 18.54.080). For retail development, one space is required for each 200 square feet of gross floor area and one space is required for every three restaurant seats (Santa Clara City Code 18.74.020). The Santa Clara City Code requires a total of 827 parking space for the project, including 662 parking spaces for the 385 residential units and 165 spaces for the retail development. The proposed parking structure provides a total of 839 parking spaces, including 674 parking spaces for the residential component of the project and 165 parking spaces for the retail component of the project. Therefore, the proposed project meets or exceeds the Santa Clara City Code total parking requirements and this impact is less than significant. For additional information on parking, see Chapter 11 of the TIA.

**Mitigation Measures:** No mitigation measures are required.

### 4.8.4.5 Cumulative Impacts and Mitigation Measures

Cumulative impacts of the proposed project are evaluated for the year 2040 because the VTA traffic model provides projected traffic volumes through 2040. The cumulative analysis includes traffic volumes based on forecasts from the VTA traffic models, which contains City-wide development and roadway improvements expected to occur by the Year 2040, including the City Place development.

**Cumulative Impact TRANS-1: Development of the proposed project would conflict with the applicable standards adopted by the local jurisdictions to evaluate the performance of CMP and non-CMP intersections under Cumulative (2040) with project conditions. (*Significant; Significant and Unavoidable*)**

Project traffic volumes were added to cumulative traffic volumes to obtain cumulative plus proposed project traffic volumes. The level of service results are summarized in **Table 4.8-10, Cumulative (2040) with Project Intersection Levels of Service**. Traffic volumes and land configurations under this scenario are shown in **Figure 4.8-9, Peak Hour Traffic Volumes and Lane Configurations – Cumulative (2040) Plus Project**.

As noted above, a significant impact at a City of Santa Clara intersection would occur if: (1) the addition of project traffic causes intersection operations to degrade from an acceptable level (LOS D or better) to an unacceptable level (LOS E or F); or (2) exacerbates unacceptable operations (LOS E or F) by increasing the critical delay by more than four seconds and increasing the volume-to-capacity (V/C) ratio by 0.01 or more; or (3) causes an increase in the V/C ratio of 0.01 or more at an intersection with unacceptable operations (LOS E or F) when the change in critical delay is negative (i.e., decreases).

Based on these impact criteria, the proposed project would have a potentially significant impact at the intersection of Lafayette and Lewis Streets. This intersection would continue to operate at LOS F during the PM peak hour under 2040 conditions. As the addition of project traffic would increase the critical delay movement at the intersection by 6.1 seconds and would increase the critical V/C ratio by 0.014 during the PM peak hour, the impact of the proposed project at this intersection is considered significant. As discussed above, due to the existing transportation system and reversible land along Lafayette Street, any change to the intersection alignment would adversely affect operations along this corridor. As a result, there are no feasible improvements available at this intersection, and the cumulative impact of the proposed project at this intersection is considered significant and unavoidable.

**Mitigation Measures:** No mitigation is feasible.

**Significance after Mitigation**: Significant and unavoidable

**Table 4.8-10**
**Cumulative (2040) with Project Intersection Levels of Service**

| Intersection | Intersection Control | Minimum Acceptable LOS[1] | Peak Hour[2] | No Project Delay[3] | No Project LOS[4] | Plus Project Delay[3] | Plus Project LOS[4] | Difference Change in Critical V/C[5] | Difference Change in Critical Delay[6] |
|---|---|---|---|---|---|---|---|---|---|
| 1. Lafayette Street and El Camino Real | Signal | E | AM | 125.0 | F | 127.7 | F | 0.009 | 4.0 |
| | | | PM | 83.2 | F | 85.2 | F | 0.005 | 2.1 |
| 2. Lafayette Street and Lewis Street | Signal | D | AM | 8.5 | A | 8.7 | A | 0.006 | 0.3 |
| | | | **PM** | **128.7** | **F** | **132.9** | **F** | **0.014** | **6.1** |
| 3. Lafayette Street and Benton Street | Signal | D | AM | 17.9 | B | 18.2 | B | 0.003 | 0.1 |
| | | | PM | 16.0 | B | 16.5 | B | 0.013 | 0.6 |
| 4. Alviso Street and Harrison Street | Side-Street Stop Controlled | E (Warrant) | AM | 16.6 | C | 16.9 | C | N/A | N/A |
| | | | PM | 13.1 | B | 13.3 | B | N/A | N/A |
| 5. The Alameda and Harrison Street | Side-Street Stop Controlled | E (Warrant) | AM | 9.3 | A | 9.3 | A | N/A | N/A |
| | | | PM | 9.4 | A | 9.4 | A | N/A | N/A |
| 6. The Alameda and Fremont Street | Side-Street Stop Controlled | E (Warrant) | AM | 9.1 | A | 8.6 | A | N/A | N/A |
| | | | PM | 9.4 | A | 8.5 | A | N/A | N/A |
| 7. The Alameda and Benton Street | Side-Street Stop Controlled | E (Warrant) | AM | 10.8 | B | 11.2 | B | N/A | N/A |
| | | | PM | 12.2 | B | 12.9 | B | N/A | N/A |
| 8. Sherman Street and Benton Street | Side-Street Stop Controlled | E (Warrant) | AM | 11.1 | B | 11.7 | B | N/A | N/A |
| | | | PM | 13.5 | B | 14.6 | B | N/A | N/A |
| 9. El Camino Real and Harrison Street | Side-Street Stop Controlled | E (Warrant) | AM | 17.2 | C | 17.5 | C | N/A | N/A |
| | | | PM | 23.4 | C | 24.4 | C | N/A | N/A |
| 10. El Camino Real and Benton Street | Signal | D | AM | 26.7 | C | 26.9 | C | 0.003 | 0.3 |
| | | | PM | 25.6 | C | 25.8 | C | 0.011 | 0.6 |
| 11. El Camino Real and Project Access | Side-Street Stop Controlled | E (Warrant) | AM | N/A | N/A | 10.6 | B | N/A | N/A |
| | | | PM | N/A | N/A | 13.0 | B | N/A | N/A |

| Intersection | Intersection Control | Minimum Acceptable LOS[1] | Peak Hour[2] | No Project | | Plus Project | | Difference | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay[3] | LOS[4] | Delay[3] | LOS[4] | Change in Critical V/C[5] | Change in Critical Delay[6] |

*Source: Fehr & Peers, 2015*

*Notes: N/A indicates that these parameters is not valid for unsignalized intersections.*

*1. Minimum Acceptable Threshold is the threshold between acceptable and unacceptable level of service. For unsignalized intersections, an intersection must be lower than the acceptable LOS threshold and meet a peak hour signal warrant.*

*2. AM = morning peak hour, PM = afternoon peak hour*

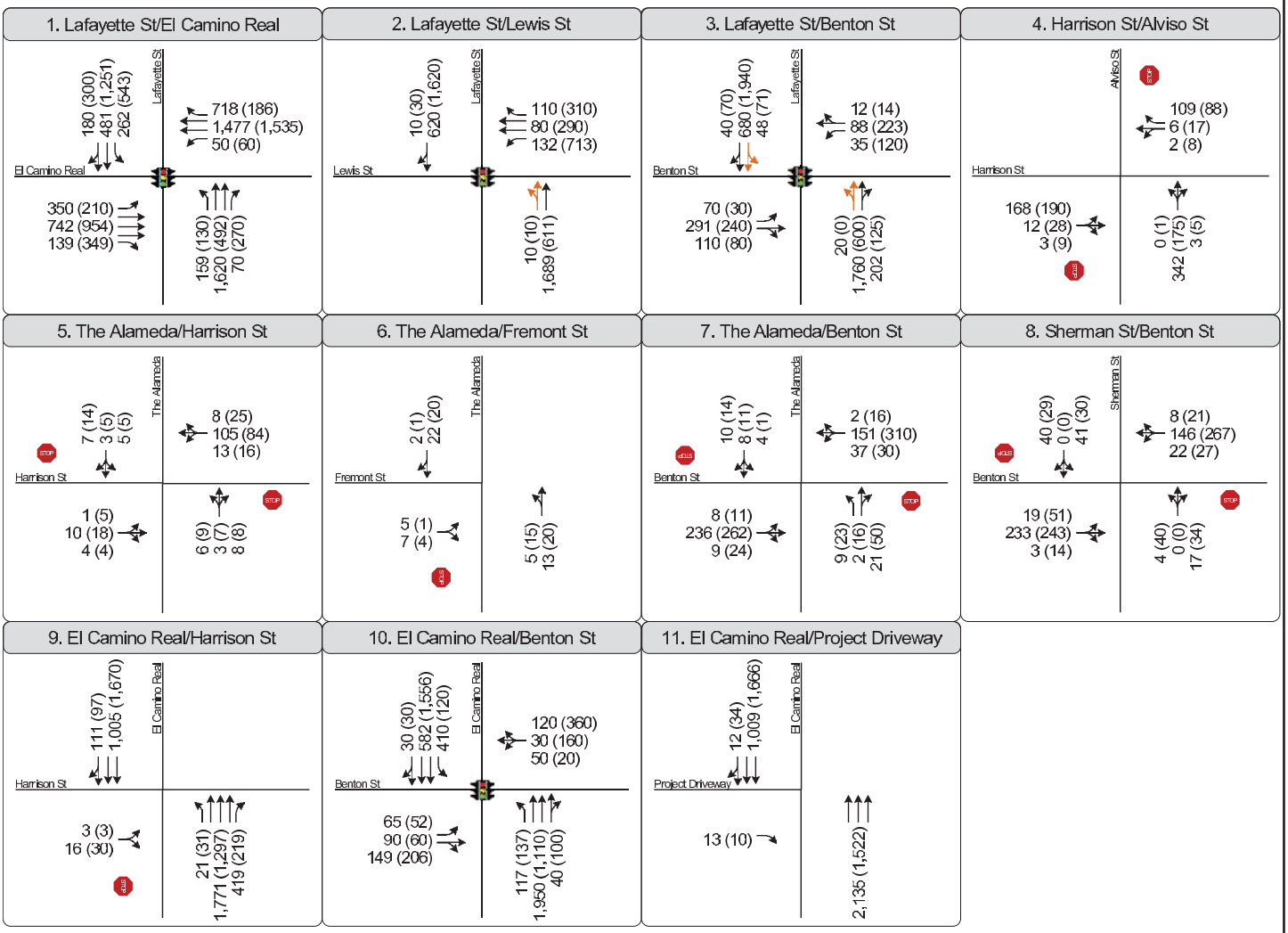
*3. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections. Total control delay for the worst movement is presented for side-street stop-controlled intersections.*

*4. LOS = Level of Service calculations conducted using the TRAFFIX level of service analysis software package, which applies the methodology described in the 2000 HCM.*

*5. Change in critical volume-to-capacity ratio (V/C) between Cumulative and Cumulative plus Project Conditions.*

*6. Change in critical movement delay between Cumulative and Cumulative plus Project Conditions.*

***Bold** font indicates unacceptable operations. **Bold and highlighted** indicates a significant impact.*




**SOURCE:** Fehr & Peers, November 2015

FIGURE **4.8-9**

Peak Hour Traffic Volumes and Lane Configurations-Cumulative (2040) Plus Project

1176.003•11/15

## 4.8.5 REFERENCES

City of Santa Clara (CSC). 2014. *City of Santa Clara 2010-2035 General Plan*. Adopted November 16, 2010. Amended December 2014.

Fehr & Peers. 2015. Mission Town Center Transportation Impact Analysis. November.

# 4.9 UTILITIES AND SERVICE SYSTEMS, INCLUDING ENERGY

## 4.9.1 INTRODUCTION

This section describes existing utilities that serve the project site and its vicinity and analyzes the potential for the proposed project to affect water supply and the water distribution system; wastewater collection, conveyance, and treatment systems; solid waste services; natural gas; and electricity.

Information on utilities and service systems was obtained from the City of Santa Clara 2010–2035 General Plan, the Santa Clara Valley Water District (SCVWD) 2010 Urban Water Management Plan, the Santa Clara Water Utility 2010 Urban Water Management Plan (UWMP), and the water supply assessment (WSA) prepared by the City of Santa Clara Water Utility, adopted October 13, 2015 by Resolution Number 15-8262. The WSA is appended to this Draft EIR as **Appendix 4.9.**

## 4.9.2 ENVIRONMENTAL SETTING

### 4.9.2.1 Water Supply and Distribution

#### *Existing Water Use and Supply*

The City of Santa Clara Water Utility (CSC) provides municipal water service to all areas within the City of Santa Clara. The CSC water supply includes local groundwater, imported water from the SCVWD, imported water from the San Francisco Public Utilities Commission (SFPUC) Hetch Hetchy Regional Water System (Hetch Hetchy System), and recycled water from South Bay Water Recycling (SBWR). The SFPUC provided 10.6 percent, SCVWD provided 18.8 percent, well water provided 60.2 percent, and recycled water provided 10.4 percent of the City's water supply in 2010.

As discussed in the WSA and UWMP, the City's current contract with the SFPUC indicates that if certain conditions are met, the City may be required to reduce or eliminate its use of water supplies from SFPUC. As a result, the UWMP analyzed the City's water supplies under future conditions assuming SFPUC water would and would not be available after approximately 2018 (CSC 2011a; CSC 2015). The CSC concluded that in the event SFPUC water was unavailable, the City's projected water supplies in the UWMP could be maintained by additional groundwater use, additional SVCWD supplies, increased recycled water use, and other measures (CSC 2011a; CSC 2015a). The City has constructed two new groundwater wells (wells 32 and 34) that provide access to previously unused groundwater resources to offset potential future SFPUC water supply reductions (CSC 2015a). The project site is located in an area that will be served by well water (CSC 2015a).

### *Local Groundwater*

The City of Santa Clara is supplied by groundwater from the Santa Clara Valley groundwater basin. The Santa Clara Valley groundwater basin extends from the Coyote Narrows at Metcalf Road in San Jose to Santa Clara County's northern boundary. The basin is bounded on the west and east by the Santa Cruz and Diablo Ranges, respectively. The mountain ranges converge at Coyote Narrows to form the Santa Clara subbasin, which is approximately 22 miles long and 15 miles wide at its widest point, and has a 225-mile subsurface area. The City of Santa Clara overlies the Santa Clara subbasin, which is recharged through percolation of runoff, direct precipitation, subsurface inflow, and artificial recharge. Groundwater recharge is managed by the SCVWD through 18 recharge systems that include more than 70 off-stream ponds with a combined surface area of more than 320 acres, and more than 30 local creeks. The Santa Clara subbasin has an estimated safe yield of approximately 200,000 acre-feet/year (afy) and an operational storage capacity of approximately 350,000 acre-feet (af) (CSC 2011a; CSC 2015a). The Santa Clara Valley groundwater basin is not adjudicated. The allowable withdrawal or safe yield of groundwater by the City of Santa Clara is dependent on a number of factors, including: withdrawals by other water agencies; the quantity of water recharged to the basin; and the carryover storage (water available for use but not used in prior years) from each previous year. The SCVWD estimates the amount of carryover storage in April of each year and reviews and modifies the basin's groundwater management strategy to avoid subsidence while allowing for groundwater use as needed to meet demand. The most recent evaluation by the California Department of Water Resources indicates that the Santa Clara Valley groundwater basin and the Santa Clara subbasin are not in overdraft (CSC 2015a).

The City currently operates 27 wells for extracting potable groundwater from the basin. The City's wells are strategically distributed around the City to increase the reliability of the water system and avoid localized subsidence due to localized overdraft. The City has well capacity that is currently not being used and the average utilization rate is approximately 22 percent of the rated capacity. Several City wells are being used at less than 10 percent of their rated capacity. The UWMP projects that the City will use approximately 20,048 afy of groundwater in 2015 and subsequent years. The City has previously extracted more than 20,000 afy of groundwater on several occasions (CSC 2015a), and has determined that the City's future groundwater use, in combination with other projected regional groundwater demands, will remain substantially below the Santa Clara subbasin's estimated safe yield (CSC 2011a; CSC 2015a).

### *Imported SCVWD Surface Water*

The SCVWD is an independent special district that supplies potable water to areas throughout Santa Clara County, and has contracted to deliver up to 4.1 million gallons per day (mgd) (4,570 afy) to the City.

The City receives 2,500 to 2,700 gallons per minute (gpm) of treated surface water from the District's Rinconada Water Treatment Plant. The City is investigating water system improvements that could increase the rate of treated water flows that could be delivered by the SCVWD (CSC 2011a).

Sources of water supplied and managed by the SCVWD include groundwater from the Santa Clara and Llagas Subbasins and surface water from the Central Valley Project (CVP) and State Water Project (SWP). SWP and CVP water stored in the SCVWD's 11 reservoirs provides up to 25 percent of Santa Clara County's water supply. The reservoirs have a storage capacity of 170,000 af (SCVWD 2011).

The SWP is a water and power development and conveyance system that includes reservoirs, lakes, storage tanks, canals, tunnels, and pipelines to convey water from the Feather River to 29 water agencies. The SWP has a storage capacity of 5.8 million acre-feet (maf) (DWR 2013a). The Department of Water Resources' (DWR) most recently published estimates of SWP delivery capability and reliability are included in the Draft State Water Project Final Delivery Reliability Report 2013. The DWR's most recent analysis indicates that, under current conditions the SWP will, on average, deliver 2.5 maf per year to system contractors, including SCVWD (DWR 2013b). Under future conditions, which include potential water supply effects from climate change and regulatory constraints affecting water exports from the San Joaquin Delta region related to endangered species protection, water quality, and other state and federal requirements, the DWR estimates that annual SWP deliveries would be approximately 2.4 maf (DWR 2013b). The CVP is a water storage and transport system operated by the US Bureau of Reclamation that provides water supply to the Central Valley and Bay Area. The CVP includes 22 reservoirs with a combined storage of 11 million acre-feet.

The SCVWD also provides recycled water for landscape irrigation and commercial and industrial uses within Santa Clara County.

### *Imported SFPUC Surface Water*

The City has contracted with the SFPUC for the delivery of up to 4.5 mgd (5,040 afy) of water from the Hetch Hetchy System, and has the capacity to accept deliveries from the SFPUC of up to 10.8 mgd (or 12,106 afy) (CSC 2011a). Bay Division Pipeline is a branch of the Hetch Hetchy System that traverses the northern portion of the City of Santa Clara and delivers potable water to areas of the City north of US Highway 101. In 2010, the City obtained 2,454 af of water from the SFPUC (CSC 2011a). As described above, if certain contractual conditions are met, the City may be required to reduce or eliminate its use of water supplies from the SFPUC. The City has analyzed the sufficiency of City water supplies with and without SFPUC deliveries, and has concluded that the City will be able to meet future demand in the event SFPUC supplies are unavailable after approximately 2018 (CSC 2011a; CSC 2015a).

California is in the fourth year of a drought, which has substantially curtailed (and in some instances eliminated) surface water deliveries from the Sierras and Northern California, and resulted in the issuance of several Executive Orders to streamline or exempt from CEQA various types of water infrastructure and management projects, the adoption of new standards to restrict use of landscaping materials such as turf that consume higher quantities of water as well as the imposition of water use reduction requirements for California communities (SWRCB 2015a, SWRCB 2015b). Urban water suppliers statewide are required to reduce urban water consumption by 25 percent between June 2015 and February 2016 (SWRCB 2015b). In March of 2015, the Santa Clara Valley Water District Board of Directors unanimously passed a resolution extending the call for a 30 percent reduction in water use through 2015 (SCVWD 2015). The City's water supply planning process and the WSA prepared for this project address water supply under multiple-dry year scenarios.

### *Recycled Water*

Recycled water within the City is supplied by South Bay Water Recycling (SBWR), a part of the San Jose-Santa Clara Regional Wastewater Facility (RWF). The plant treats wastewater in compliance with California Administrative Code Title 22 Division 4 requirements for unrestricted use, which allows for the use of recycled water (treated effluent) in landscape irrigation, industrial processes, and some commercial uses. The predominant use of recycled water in the City is landscape irrigation, particularly in large turf areas such as golf courses, parks, and schools. Recycled water is also currently used in industrial processes, cooling towers, and toilet flushing in dual-plumbed buildings. In 2010, recycled water use in the City was 2,409 af or 10.4 percent of the overall City water demand (CSC 2011a). Recycled water is currently not available at the proposed project site (CSC 2015).

### *Water Distribution and Treatment Infrastructure*

The CSC owns and maintains the water distribution system within the City of Santa Clara, including a 12-inch water main in El Camino Real and a 6-inch main in The Alameda. The City's water distribution system consists of 334 miles of water pipeline, 27 miles of recycled water pipeline, 27 wells, and seven storage tanks (CSC 2011a).

The SCVWD owns and operates three water treatment plants, including the Rinconada, Santa Teresa, and Penitencia Water Treatment Plants. The Rinconada Water Treatment Plant (RWTP) produces potable water for areas within the west Santa Clara Valley, including the cities of Santa Clara, Los Gatos, Campbell, Sunnyvale, Cupertino, Mountain View, Los Altos, and Los Altos Hills. Treatment capacity at the RWTP is 80 mgd (SCVWD 2011).

The RWTP is in the process of implementing the Reliability Improvement Project. Construction of the project began in the summer 2015 and is expected to end in 2018. The project would construct new clarification, filtration, and ozonation facilities. Groundwater supplies are not treated prior to distribution because groundwater extracted from the Santa Clara subbasin is of sufficient quality to comply with current state and federal drinking water standards upon extraction (SCVWD 2011).

#### 4.9.2.2 Wastewater

### *Sewage Collection and Conveyance*

The CSC provides sanitary sewer collection services to the City of Santa Clara. The CSC owns and maintains the sanitary sewage collection and conveyance system within the City. The system consists of 277 miles of collector and transmission mains and six sanitary sewer pump stations. In the vicinity of the project site, the CSC operates and maintains 18-inch and 24-inch sewer mains in Benton Street, a 6-inch sewer main in Fremont Street, Sherman Avenue, and The Alameda, and a 12-inch sewer main in El Camino Real.

The *City of Santa Clara Sanitary Sewer Capacity Assessment for General Plan Update*, updated in September 2009, was prepared to evaluate the impacts of the proposed General Plan developments on the City's existing sanitary sewer system and to identify necessary sewer infrastructure improvements to accommodate the development proposed under the General Plan Update. As with the *2007 Sanitary Sewer Capacity Assessment* most of the insufficient capacity for peak wet weather flow for 2010–2015 (Phase 1 of the General Plan) exists in the northwestern portion of the City. Phase 1 identified sanitary sewer capacity improvements that would increase capacity resulting in no deficiencies during 2012–2025 (Phase 2 of the General Plan). During 2025–2035 (Phase 3 of the General Plan) some intensified capacity deficiencies were identified that would require improvements (CSC 2009).

### *Wastewater Treatment*

Wastewater generated within the City of Santa Clara is conveyed to the San Jose - Santa Clara RWF at 700 Los Esteros Road in San Jose for treatment. The RWF is jointly owned by the cities of San Jose and Santa Clara and serves over 1.4 million people within a 300-square-mile area including San Jose, Santa Clara, Milpitas, Campbell, Cupertino, Los Gatos, Saratoga, and Monte Sereno. The RWF has the capacity to treat 167 mgd average dry weather influent flow (ADWIF)[1] to tertiary standards.[2] The design peak hour wet

---

1 ADWIF is defined in the current NPDES permit as the maximum of the average daily flow over any five-weekday period between the months of June and October.

weather flow (PHWWF), according to the facility's National Pollutant Discharge Elimination System (NPDES) permit, is 271 mgd. However, due to concerns over the effects of freshwater discharges from the RWF on the saltwater marsh habitat, and pollutant loading to the San Francisco Bay from the RWF, the capacity is constrained to 120 mgd (City of San Jose 2011). Currently, the RWF treats an average of 110 mgd (CSC 2011a). The City of Santa Clara is allocated 22.585 mgd of the RWF dry weather capacity. As of 2009, its average dry weather flow from the City of Santa Clara was 13.3 (CSC 2011b). Based on the General Plan, projected wastewater generation in the City of Santa Clara is assumed to remain within the allotted portion of the RWF treatment capacity.

#### 4.9.2.3 Stormwater

The site is currently served by the City's municipal storm drainage facilities. The City owns and maintains 24-inch to 48-inch storm drains in Benton Street, a 60-inch storm drain in Sherman Street, and 48-inch and 60-inch storm drains in El Camino Real.

#### 4.9.2.4 Solid Waste

The City of Santa Clara contracts with Mission Trail Waste Systems for solid waste collection and disposal services. Mission Trail Waste Systems is also the exclusive franchise hauler of drop body construction debris bins. Collection of recyclable materials is conducted under a contract with the City by Stevens Creek Disposal and Recycling. Solid waste and recyclables are transferred to the Newby Island Landfill located at 1601 Dixon Landing Road in the City of Milpitas, approximately eight miles northeast of the project site. The approximately 342-acre facility has a permitted capacity of 57.5 million cubic yards. The landfill has a permit to accept a maximum of 4,000 tons of solid waste per day and a remaining disposal capacity of about 21.2 million cubic yards (CalRecycle 2014).

The California Integrated Waste Management Act of 1989 mandated cities and counties to divert 50 percent of all solid waste by 2000 through source reduction, recycling, and composting activities. The City of Santa Clara met this threshold by diverting 52 percent of its solid waste in 2006 (CSC 2014). California Department of Resources Recycling and Recovery (CalRecycle) determines diversion rates based on a daily generation rate in terms of lbs/person/day. A calculated generation rate lower than the target generation rates indicates that the City has achieved its diversion goal of 50 percent or more. The target for the City of Santa Clara is 8.2 lbs/person/day for the residential population and 9.0 lbs/person/day for employment. The City achieved 5.5 lbs/person/day for the residential population

---

2 Tertiary standards or treatment is the final stage to raise effluent quality before discharging to the environment (e.g., sea, river, lake, and ground). Typically, tertiary treatment includes nutrient removal and disinfection.

and 6.0 lbs/person/day for employment in 2013 (CalRecycle 2013). Therefore, the City has exceeded the 50 percent diversion goal.

#### 4.9.2.5 Electricity

Electrical power is provided by the Santa Clara Electric Department, known as Silicon Valley Power (SVP). In 2014, SVP power mix was provided from natural gas (42.1 percent), renewable resources (36.3 percent), large hydroelectric (15.1 percent), coal (11.4 percent), and additional unspecific sources of power (-4.9 percent). SVP provides the option of receiving electricity only generated by renewable sources, including wind and solar power, through the Santa Clara Green Power program (SVP 2015).

Approximately 66 percent of electricity used within California in 2012 was generated within the State of California from natural gas (61.1 percent), nuclear (9.3 percent), large hydroelectric (11.7 percent), renewable resources (17.1 percent), and coal (0.8 percent) (CEC 2013). The remaining portion of electricity was generated in the southwest United States (21 percent) and within the Pacific Northwest (13 percent). The State of California power mix, including in-state generation and out of state purchase in 2012, was provided from natural gas (43.3 percent), renewable resources (15.4 percent), large hydroelectric (8.3 percent), coal (7.5 percent), nuclear (9 percent), and additional unspecific sources of power (16.4 percent) (CEC 2013). The total system power for California was 302,000 gigawatt-hours (GWh), which is about 3 percent higher than 2011. This is due to warmer weather, during winter, spring, and summer, and a slight recovery from the recession (CEC 2013).

#### 4.9.2.6 Natural Gas

Natural gas is provided and distributed to residents and businesses in the City of Santa Clara by Pacific Gas and Electric (PG&E). Natural gas used within California in 2012 was extracted within California (9 percent), Canada (16 percent), the Rocky Mountain region of the United States (40 percent), and in the southwest United States (35 percent) (CPUC 2013).

In 2012, total natural gas demand in California for residential, commercial, industrial, natural gas vehicles, and electric power was 2,313 billion cubic feet per year (Bcf/year). Approximately 21 percent was used for residential uses, 8.7 percent for commercial uses, 25 percent for industrial uses, 0.7 percent for natural gas vehicles, and 45 percent for electrical power (CEC n.d.).

#### 4.9.2.7 Energy Conservation

The California Energy Commission (CEC) was created as the state's principal energy planning organization in 1974, in order to meet the energy challenges facing the state in response to the 1973 oil

embargo. The CEC is charged with six basic responsibilities when designing state energy policy: (1) forecasting statewide electricity needs; (2) licensing power plants to meet those needs; (3) promoting energy conservation and efficiency measures; (4) developing renewable energy resources and alternative energy technologies; (5) promoting energy research, development and demonstration; and (6) planning for and directing state response to energy emergencies.

Title 24, Part 6, of the California Code of Regulations contains the CEC's Energy Efficiency Standards for Residential and Nonresidential Buildings. Title 24 was first established in 1978, in response to a legislative mandate to reduce California's energy consumption. Since that time, Title 24 has been updated on an approximately three-year cycle to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

In November 2013, the CEC adopted the Title 24 2013 standards, which went into effect July 1, 2014. The 2013 standards require new construction and alterations to existing buildings to reduce energy demand during critical peak periods as well as require future solar electric and thermal system installations. Residential efficiency improvements are required for windows, envelope insulation, and HVAC system testing. Non-residential improvements are included for windows, lighting controls, unitary HVAC equipment, and building commissioning. Further, the 2013 standards updated the energy efficiency divisions of the California Green Building Code Standards (Title 24, Part 11).

In addition to Title 24, AB 32 has resulted in the adoption of regulations to help mitigate risks associated with climate change, while improving energy efficiency, expanding the use of renewable energy resources, cleaner transportation, and reducing waste in California (See **Section 4.3, Greenhouse Gas Emissions**, for additional information on AB 32). In order to achieve the emission reductions targeted under AB 32, it is generally accepted that California will need to improve its overall energy efficiency, which includes the use of more renewable energy resources. Pursuant to AB 32, the California Air Resources Board (CARB) will work with other state agencies (including the CEC) to implement feasible programs and regulations that reduce emissions and improve energy efficiency.

Additional operative energy conservation programs and policies within California are highlighted briefly below:

- **Senate Bill 107:** This legislation, which addresses California's Renewables Portfolio Standard (RPS), requires retail sellers of electricity to procure 20 percent of retail sales from renewable energy by 2010.
- **Assembly Bill 1613:** This legislation, also known as the Waste Heat and Carbon Emissions Reduction Act, was designed to encourage the development of new combined heat and power systems in California with a generating capacity of up to 20 MW.

- **Senate Bill 1:** This legislation enacted the Governor's Million Solar Roofs program and has an overall objective of installing 3,000 MW of solar photovoltaic systems.
- **Executive Order S-14-08:** This order, issued by Governor Schwarzenegger, established accelerated RPS targets—specifically 33 percent by 2020.
- **Executive Order S-21-09:** This order, also issued by Governor Schwarzenegger, requires CARB to adopt regulations, by July 31, 2010, increasing California's RPS to 33 percent by 2020.

## 4.9.3 REGULATORY CONSIDERATIONS

### 4.9.3.1 Federal Regulations

#### *Energy Policy and Conservation Act*

Enacted in 1975, this legislation established fuel economy standards for new light-duty vehicles sold in the US. The law placed responsibility on the National Highway Traffic and Safety Administration (a part of the US Department of Transportation) for establishing and regularly updating vehicle standards. The US Environmental Protection Agency (US EPA) administers the Corporate Average Fuel Economy (CAFE) program, which determines vehicle manufacturers' compliance with existing fuel economy standards. Since the inception of the CAFE program, the average fuel economy for new light-duty vehicles (autos, pickups, vans, and SUVs) steadily increased from 13.1 mpg for the 1975 model year to 27.5 mpg for the 2012 model year and is proposed to increase to 54.5 by 2025 (U.S. EPA 2015).

#### *Energy Star Program*

In 1992, the US EPA introduced Energy Star as a voluntary labeling program designed to identify and promote energy-efficient products to reduce greenhouse gas emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specifications for maximum energy use established under the program are certified to display the Energy Star label. In 1996, US EPA joined with the Energy Department to expand the program, which now also includes qualifying commercial and industrial buildings, and homes.

#### *Income Tax Credits*

Federal income tax credits are available to individuals for installation of qualified energy conservation features in the home such as insulation, replacement windows, and certain high-efficiency heating and cooling equipment. Additional tax credits are available for qualified solar water heating and photovoltaic systems, and also for qualified fuel cell and microturbine systems. Tax credits are also available to buyers

of designated fuel-efficient vehicles such as electric and alternative fuel. Builders of homes that incorporate energy-efficient materials, as well as manufacturers of certain products designed to meet Energy Star standards, also qualify for tax credits.

### 4.9.3.2 State Regulations

#### *Urban Water Management Planning Act*

California State Assembly Bill 797 (California Water Code Section 10610, et seq.), adopted in 1983, requires every urban water supplier providing water for municipal purposes to more than 3,000 customers or more than 3,000 acre-feet of water on an annual basis to prepare an UWMP. The intent of the UWMP is to assist water supply agencies in water resource planning over at least a 20-year planning period given their existing and anticipated future demands. UWMPs must be updated every five years in years ending in 0 and 5.

The City updated and adopted a UWMP in May 2011. The UWMP includes projected water supplies required to meet future demands through 2020. The UWMP projects and analyzes the City's future demand and water supplies through 2035. The SCVWD provides imported water to the City. The SCVWD also updated and adopted the District's current UWMP in 2011.

#### *Senate Bill 610*

Water Code Section 10910 et seq., which were modified by Senate Bill (SB) 610 in 2001, require that a water supply assessment be prepared by a public water system or the California Environmental Quality Act (CEQA) lead agency for certain projects subject to discretionary local or state agency approvals. The WSA must be approved by the public water system's governing body and be included and considered by the CEQA lead agency in the project's CEQA analysis. In the event that a project's water demands are considered in the most recent UWMP adopted by the applicable public water system, the UWMP may be used to prepare the WSA. The City is the public water system for the proposed project and prepared a WSA in accordance with the Water Code. As discussed below, a higher annual water demand for the project site than the proposed project would generate was identified and considered in the UWMP (CSC 2011; CSC 2015). The WSA was approved by the Santa Clara City Council, the governing body of the City, on October 13, 2015, and is included in **Appendix 4.9** of this Draft EIR.

#### *Senate Bill 221*

SB 221 amended the California Subdivision Map Act in 2001 (Government Code section 66410 et seq.) and requires that subdivision maps for projects that consist of more than 500 dwelling units or that would

result in a 10 percent or greater increase in a small (fewer than 500 service connections) public water system's service connections include a condition that a sufficient water supply will be available for the project. The statute includes criteria for determining "sufficient water supply," such as using normal, single-dry, and multiple-dry year hydrology and identifying the amount of water that the supplier can reasonably rely on to meet existing and future planned uses. In compliance with SB 221, as discussed above, a WSA has been prepared for the proposed project, and the WSA demonstrates that sufficient water will be available to serve the proposed project.

### *California Integrated Waste Management Act*

As many of the landfills in the state are approaching capacity and finding a location for new landfills becomes increasingly difficult, the need for source reduction, recycling, and composting has become readily apparent. In response to this increasing solid waste problem, in September 1989 the State Assembly passed Assembly Bill (AB) 939, known as the California Integrated Waste Management Act. The act required every city and county in the state to prepare a Source Reduction and Recycling Element (SRRE) with its Solid Waste Management Plan that identifies how each jurisdiction will meet the mandatory state waste diversion goals of 25 percent by the year 1995 and 50 percent by the year 2000. Senate Bill 2202 mandates that jurisdictions continue 50 percent diversion on and after January 1, 2000. The purpose of AB 939 is to facilitate the reduction, recycling, and re-use of solid waste to the greatest extent possible. The consequences of noncompliance with the goals and timelines set forth within AB 939 can be severe, as the bill imposes fines of up to $10,000 per day on cities and counties not meeting these recycling and planning goals.

### *Title 24*

As previously discussed, buildings constructed after June 30, 1977, must comply with standards identified in Title 24 of the California Code of Regulations. Title 24 requires the inclusion of energy conservation features in building design and construction, including the incorporation of specific energy-conserving design features, use of non-depletable energy resources, or a demonstration that buildings would comply with a designated energy budget. The current Title 24 standards were adopted in November 2013 and went into effect July 1, 2014.

### *Recent Water Conservation Regulations*

To implement Executive Orders responding to the drought, the State Water Quality Control Board has issued Resolution No. 2015-0032, approving emergency regulations and taking other actions to reduce demand for potable water supplies, including reducing potable water consumption in urban areas, that apply over both the short and long term (SWRCB 2015c). For example, the Board has adopted clear

standards to encourage reuse of reclaimed and recycled water (See i.e. Government Code §§ 65596; 65602-65607; Health & Safety Code §§ 8117-8118; Public Utilities Code §455.1; Streets and Highways Code §92.3; Water Code §§ 10950-10953, 13553, 13563). The Board also imposed significant new restrictions on the use of ornamental turf for residential and commercial projects (Water Recycling in Landscaping Act, Water Code § 65602 – 65607). Local jurisdictions were also required to cut potable water use by 25 percent statewide, with each jurisdiction within California assigned a specific reduction target and Santa Clara required to reduce consumption by 16 percent (SWRCB 2015b). On July 30, 2015 the Board reported that California has exceeded its 25 percent reduction target and achieved a 27.3 percent reduction in June (SWRCB 2015d).

### 4.9.3.3 Local Regulations

#### *City of Santa Clara Rules and Regulations*

The City of Santa Clara has established Water Service and Use Rules and Regulations in order to prevent water waste and reasonably reduce water use within the City. The Water Service and Use Rules and Regulations include water use restrictions and prohibitions that prohibit water uses such as ones that result in water runoff or flooding onto sidewalks, gutters, or streets; cleaning of sidewalks, patios, vehicles, and hard paving surfaces unless the hose used is fitted with an operating automatic shut-off valve; installation of non-recirculating decorative fountains; and more. The full list of water use restrictions and prohibitions can be found in Section 1.C of the Water Service and Use Rules and Regulations.

The City of Santa Clara has also established rules and regulations for utility billing, electric utility, and garbage, recycling, and hazardous waste. The Municipal Services Division Utility Services Rules and Regulations include billing-related information regarding payment, disconnection, and access to utility infrastructure. The SVP Rules and Regulations stipulate rates, access requirements, equipment handling rules, and procedures for parallel generation and emergency generation. The Garbage, Refuse, Recycling, Household Hazardous Waste, and/or Clean Green Materials Rules and Regulations apply to refuse containers, household hazardous waste disposal, collection services, green waste, and annual cleanups.

#### *City of Santa Clara General Plan*

The City of Santa Clara General Plan contains goals and policies relating to energy, water, and conservation in the City. General Plan policies relevant to the proposed project are as follows:

**Conservation Goals**

**Goal 5.10.1-G3** Adequate solid waste disposal capacity through effective programs for recycling and composting.

**Goal 5.10.1-G4** Adequate wastewater treatment and conveyance capacities.

**Conservation Policies**

**Policy 5.10.1-P6** Require adequate wastewater treatment and sewer conveyance capacity for all new development.

**Policy 5.10.1-P7** Encourage the use of local recycling facilities to divert waste from landfills.

**Policy 5.10.1-P8** Encourage a 90 percent reduction per capita for solid waste tonnage from 2010-2025.

**Policy 5.10.1-P9** Encourage curbside recycling and composting of organic and yard waste.

**Energy Goals**

**Goal 5.10.3-G1** Energy supply and distribution maximizes the use of renewable resources.

**Goal 5.10.3-G2** Implementation of energy conservation measures to reduce consumption.

**Goal 5.10.3-G3** Adequate energy service to residents, businesses, and municipal operations.

**Energy Policies**

**Policy 5.10.3-P1** Promote the use of renewable energy resources, conservation and recycling programs.

**Policy 5.10.3-P2** Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.

**Policy 5.10.3-P3** Reduce energy consumption through sustainable construction practices, materials and recycling.

**Policy 5.10.3-P4** Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.

**Policy 5.10.3-P7** Incorporate criteria for sustainable building and solar access into the City's ordinances and regulations.

**Policy 5.10.3-P8** Maintain the City's level of service for high quality utilities and telecommunications infrastructure.

**Policy 5.10.3-P9** Continue innovative energy programs to develop cost effective alternative power sources and encourage conservation.

**Policy 5.10.3-P10** Work with Silicon Valley Power to implement adequate energy distribution facilities to meet the demand generated by new development.

**Policy 5.10.3-P12** Work with Pacific Gas and Electric to ensure an adequate supply of natural gas to meet the demand generated by new development.

**Water Goals**

**Goal 5.10.4-G1** A reliable, safe supply of potable water adequate to meet present and future needs.

**Goal 5.10.4-G2** High water quality maintained throughout the City.

**Goal 5.10.4-G3** A reduction in the demand and consumption of water resources.

**Water Policies**

**Policy 5.10.4-P1** Promote water conservation through development standards, building requirements, landscape design guidelines, education, compliance with the State Water Conservation Landscaping Ordinance and other applicable City-wide policies and programs.

**Policy 5.10.4-P2** Expand water conservation and reuse efforts throughout the City.

**Policy 5.10.4-P3** Promote water conservation, recycled water use, and sufficient water importation to ensure an adequate water supply.

**Policy 5.10.4-P4** Require an adequate water supply and water quality for all new development.

**Policy 5.10.4-P6** Maximize the use of recycled water for construction, maintenance, irrigation and other appropriate applications.

## 4.9.4 IMPACTS AND MITIGATION MEASURES

### 4.9.4.1 Significance Criteria

The impact of the proposed project on utilities and service systems, including energy resources, would be considered significant if it would exceed the following standards of significance, in accordance with Appendices F and G of the *State CEQA Guidelines*:

- exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- have insufficient water supplies available to serve the project from existing entitlements and resources, requiring new or expanded entitlements;
- result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs;
- fail to comply with federal, state, and local statutes and regulations related to solid waste;
- fail to comply with the regulatory energy standards (i.e., Title 24 of the California Code of Regulations);
- consume fuel or energy that could not be accommodated within the long-term supply and distribution systems of the suppliers; or
- involve wasteful energy use as related to project construction activities or transportation energy use.

### 4.9.4.2 Methodology

Project impacts are evaluated according to the above standards of significance by utilizing information on existing utility and service systems infrastructure provided by the City of Santa Clara, the SCVWD, the RWTP, the San Jose/Santa Clara RWF and the Newby Island Landfill. The project's effect on the wastewater conveyance and wastewater treatment plant was evaluated by using the information in the *City of Santa Clara Sanitary Sewer Capacity Assessment for General Plan Update*, which evaluated the existing and future capacity of the wastewater conveyance system within the City using monitoring and a hydraulic model.

The City prepared, and the City Council adopted, a WSA for the proposed project which is included in **Appendix 4.9** of this Draft EIR. The WSA utilizes information from the current UWMP adopted by the City in 2011. The information used in the WSA includes historical water demand within the City of Santa Clara, based on land use types.

Potential impacts to the Newby Island Landfill were evaluated by calculating the amount of solid waste that would be generated by the proposed project, comparing the volumes to the existing remaining capacity of the landfill, and determining whether there would be enough capacity to serve the project.

Electricity and natural gas impact analyses were based on the demand for these resources and services associated with the proposed project to determine whether sufficient capacity exists to meet that demand.

As stated in **Chapter 3.0, Project Description**, the site and the existing buildings are in good condition and suitable for continued use as residential and commercial space in the event the proposed redevelopment does not proceed. Therefore, utility demand associated with the use of the existing commercial buildings and residences was deducted from the project's utility demand to estimate the net increase in demand that would result with project implementation.

### 4.9.4.3 Project Impacts and Mitigation Measures

**Impact UTL-1: Development of the proposed project would not result in the need for new or expanded water supply entitlements. (*Less than Significant*)**

#### *Project Water Demand*

The proposed project would utilize approximately 60.1 afy of potable water at full buildout (CSC 2015). The proposed project's water demand calculations are summarized in **Table 4.9-1, Estimated Project Water Demand**.

**Table 4.9-1**
**Estimated Project Water Demand**

| Land Use | Water Demand (afy) |
|---|---|
| Residential | 52.2 |
| Amenity Space | 0.7 |
| Retail | 2.3 |
| Leasing Office | 0.6 |
| Landscape Irrigation | 4.3 |
| **Total Project Demand** | **60.1** |
| Occupied On-Site Buildings | 1.7 |
| **Net Water Demand** | **58.4** |

*Source: CSC 2015*

The WSA estimates that water demand on the project site is approximately 1.7 afy. The proposed project's water demand would be approximately 58.4 afy higher than the estimated demand on the site. As shown by the analysis below, the projected net increase of 58.4 afy is within the growth projections in the 2010 UWMP (CSC 2015).

## *Projected Water Supplies*

The WSA considered whether the City could meet aggregate demand if the proposed project's 58.4 afy increase above the estimated 1.7 afy inventory use amount was treated as a new demand not considered in the UWMP. The City maintains a current summary of additional water demand that would be generated by projects proposed or approved after the UWMP was prepared and that were not specifically considered in the UWMP analysis. As shown in **Table 4.9-2**, as of October 2015 when the WSA was approved, approximately 752.5 afy during the 2010-2014 UWMP planning period, and 797.3 afy during the 2015-2019 UWMP planning period was identified as additional demand associated with projects proposed or approved after the UWMP was prepared. The WSA supplemented this summary by considering the potential incremental impact on the UWMP analysis that could result from adding the net 58.4 afy project water demand increase to the previously identified total for the 2015-2019 planning period as the project is expected to be completed by 2020. Using this approach, the WSA estimated that new demand relative to the UWMP projections would increase from 797.3 afy to 855.8 afy during the 2015-2019 planning period (see **Table 4.9-3**). The WSA concluded that, even if the proposed project's demand was to be conservatively treated as a new water use for UWMP planning purposes, the City's aggregate water demand through 2035 would remain within the level of increase analyzed in the UMWP (CSC 2015) and the City would continue to be able to meet projected water demand with existing supplies.

**Table 4.9-2**
**Changes in Water Demand from the UWMP (afy)**
**by Planning Period, Excluding the Proposed Project and Including**
**Projects Not Specifically Considered in the UWMP**

| Year | Single-Family Dwelling | Multi-Family Dwelling | Commercial | Industrial | Institutional | Municipal | Total |
|---|---|---|---|---|---|---|---|
| 2010–2014 | 0.0 | 0.0 | 752.5* | 0.0 | 0.0 | 0.0 | 752.5 |
| 2015–2019 | 158.0 | 430.7 | 518.1 | 0.0 | 0.0 | -309.5.0 | 797.3 |
| 2020–2024 | 0.0 | 0.0 | 800.2 | 0.0 | 0.0 | 0.0 | 775.6-800.2** |
| 2025–2029 | 0.0 | 0.0 | 670.3 | 0.0 | 0.0 | 0.0 | 670.3 |
| 2030–2034 | 0.0 | 0.0 | 217.4 | 0.0 | 0.0 | 0.0 | 217.4-224.6** |

*Source: CSC 2015*
** Updated water demand to reflect the replacement of the original 3333 Scott Blvd. Water Supply Assessment's water demand of 384.4 afy (Resolution # 12-7933). This updated water demand takes into account the historical usage of 9.5 afy.*
*** Range of values due to 2 possible development schemes for City Place project (Resolution #15-8250).*

**Table 4.9-3**
**Changes in Water Demand from the UWMP (afy)**
**by Planning Period, Including Projects Not Specifically Considered in the UWMP and Treating**
**Project Demand as a New Water Use Occurring in the 2015–2019 Planning Period**

| Year | Single-Family Dwelling | Multi-Family Dwelling | Commercial | Industrial | Institutional | Municipal | Total |
|---|---|---|---|---|---|---|---|
| 2010–2014 | 0.0 | 0.0 | 752.5* | 0.0 | 0.0 | 0.0 | 752.5* |
| 2015–2019 | 157.0 | 482.9 | 525.4 | 0.0 | 0.0 | -309.5 | 855.8 |
| 2020–2024 | 0.0 | 0.0 | 800.2 | 0.0 | 0.0 | 0.0 | 775.6-800.2** |
| 2025–2030 | 0.0 | 0.0 | 670.3 | 0.0 | 0.0 | 0.0 | 670.3 |
| 2030–2034 | 0.0 | 0.0 | 217.4 | 0.0 | 0.0 | 0.0 | 217.4-224.6** |

*Source: CSC 2015*
** Updated water demand to reflect the replacement of the original 3333 Scott Blvd. Water Supply Assessment's water demand of 384.4 afy (Resolution # 12-7933). This updated water demand takes into account the historical usage of 9.5 afy.*
*** Range of values due to 2 possible development schemes for City Place project (Resolution #15-8250).*

The UWMP analyzes the City's projected water demand and supplies through 2035 for normal, single dry, and multiple dry or drought period hydrological conditions. The analysis considers future supply conditions assuming that SFPUC supplies will continue to be available over time, and assuming that SFPUC supplies are unavailable after approximately 2018 when certain contract contingencies affecting SFPUC deliveries could occur. The use of imported water supplies from both the SCVWD and SFPUC are

adjusted in the UWMP projections during dry and multiple dry years to reflect delivery reductions that the SCVWD and SFPUC have projected in applicable long-term planning documents and water supply contract provisions. As discussed above, the UWMP indicates that the City will use 20,048 afy of groundwater from 2015 onwards, and that cumulative Santa Clara subbasin groundwater use, including City use, will remain substantially below the estimated safe yield for the basin.

**Table 4.9-4**, **UWMP Normal Year Supply and Demand Projections 2015-2035 (acre-feet),** summarizes the UWMP supply and demand projections for normal years, assuming SFPUC supplies will and will not be available during the analysis period. The analysis shows that the City's existing supplies will meet projected demand in all years with SFPUC supplies. If SFPUC supplies are not available after approximately 2018, the projected demand will slightly exceed available supplies in subsequent years.

**Table 4.9-4**
**UWMP Normal Year Supply and Demand Projections**
**2015-2035 (acre-feet)**

| | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| **With SFPUC Supply** | | | | | |
| Supply totals | 37,352 | 37,753 | 38,032 | 38,088 | 38,088 |
| Demand totals | 31,259 | 33,053 | 34,605 | 36,071 | 37,433 |
| Difference | 6,093 | 4,700 | 3,427 | 2,017 | 655 |
| Difference as % of Supply | 16.30% | 12.40% | 9.00% | 5.30% | 1.70% |
| Difference as % of Demand | 19.50% | 14.20% | 9.90% | 5.60% | 1.70% |
| **Without SFPUC Supply** | | | | | |
| Supply totals | 37,352 | 32,713 | 32,992 | 33,048 | 33,048 |
| Demand totals | 31,259 | 33,053 | 34,605 | 36,071 | 37,433 |
| Difference | 6,093 | -340 | -1,613 | -3,023 | -4,385 |
| Difference as % of Supply | 16.30% | -1.00% | -4.90% | -9.10% | -13.30% |
| Difference as % of Demand | 19.50% | -1.00% | -4.70% | -8.40% | -11.70% |

*Source: CSC 2011, pages 82-83, Tables 43A and 43B.*

**Table 4.9-5**, **UWMP Single Dry Year Supply and Demand Projections 2015-2035 (acre-feet),** summarizes the UWMP supply and demand projections for single dry years, assuming SFPUC supplies will and will not be available during the analysis period. The analysis shows that, although surface water deliveries would be reduced during certain single dry years, the City's existing supplies will meet projected demand during a single dry year through approximately 2025 with SFPUC supplies. Demand would slightly exceed demand in subsequent years. Projected demand would begin to slightly exceed available supplies by 2020 if SFPUC deliveries were curtailed in about 2018. The projected supply shortfall would increase over the analysis period and would be approximately 21.5 percent of demand by 2035.

**Table 4.9-5**
**UWMP Single Dry Year Supply and Demand Projections**
**2015-2035 (acre-feet)**

| | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| **With SFPUC Supply** | | | | | |
| Supply totals | 34,313 | 34,714 | 34,993 | 34,135 | 34,135 |
| Demand totals | 31,259 | 33,053 | 34,605 | 36,071 | 37,433 |
| Difference | 3,054 | 1,661 | 388 | -1,936 | -3,298 |
| Difference as % of Supply | 8.90% | 4.80% | 1.10% | -5.70% | -9.70% |
| Difference as % of Demand | 9.80% | 5.00% | 1.10% | -5.40% | -8.80% |
| **Without SFPUC Supply** | | | | | |
| Supply totals | 34,313 | 32,713 | 32,992 | 29,392 | 29,392 |
| Demand totals | 31,259 | 33,053 | 34,605 | 36,071 | 37,433 |
| Difference | 3,054 | -340 | -1,613 | -6,679 | -8,041 |
| Difference as % of Supply | 8.90% | -1.00% | -4.90% | -22.70% | -27.40% |
| Difference as % of Demand | 9.80% | -1.00% | -4.70% | -18.50% | -21.50% |

*Source: CSC 2015 Table 11, CSC 2011, page 83, Tables 44A and 44B.*

**Tables 4.9-6** and **4.9-7** summarize the UWMP supply and demand projections for multiple dry years, assuming SFPUC supplies will (**Table 4.9-6**) and will not (**Table 4.9-7**) be available during the analysis period. The analysis shows that the City's existing supplies will meet projected demand during a multiple dry year drought through approximately 2025 with SFPUC supplies. Demand would slightly exceed demand in subsequent years. Projected demand would begin to slightly exceed available supplies by 2020 if SFPUC deliveries were curtailed in 2018. The projected supply shortfall would increase over the analysis period and would be approximately 13.5 percent of demand in a third drought year by 2035.

**Table 4.9-6**
**UWMP Multiple Dry Year Supply and Demand Projections with SFPUC Supplies**
**2015–2035 (acre-feet)**

| | | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|
| Multiple- dry year first year supply | Supply totals | 37,352 | 37,753 | 38,032 | 35,088 | 35,088 |
| | Demand totals | 31,259 | 33,053 | 34,605 | 36,071 | 37,433 |
| | Difference | 6,093 | 4,700 | 3,427 | -983 | -2,345 |
| | Difference as % of Supply | 16.30% | 12.40% | 9.00% | -2.80% | -6.70% |
| | Difference as % of Demand | 19.50% | 14.20% | 9.90% | -2.70% | -6.30% |
| Multiple- dry year second year supply | Supply totals | 37,352 | 37,753 | 38,032 | 35,088 | 35,088 |
| | Demand totals | 32,726 | 34,734 | 36,371 | 37,949 | 37,949 |
| | Difference | 4,626 | 3,019 | 1,661 | -2,861 | -2,861 |
| | Difference as % of Supply | 12.40% | 8.00% | 4.40% | -8.20% | -8.20% |
| | Difference as % of Demand | 14.10% | 8.70% | 4.60% | -7.50% | -7.50% |
| Multiple- dry year third year supply | Supply totals | 37,352 | 37,753 | 38,032 | 35,088 | 35,088 |
| | Demand totals | 33,163 | 35,064 | 36,674 | 38,210 | 38,210 |
| | Difference | 4,189 | 2,689 | 1,358 | -3,122 | -3,122 |
| | Difference as % of Supply | 11.20% | 7.10% | 3.60% | -8.90% | -8.90% |
| | Difference as % of Demand | 12.60% | 7.70% | 3.70% | -8.20% | -8.20% |

*Source: CSC 2015 Table 12a; CSC 2011, page 84, Table 45A.*

Although potential water supply shortfalls are identified in certain years and under certain conditions in the UWMP normal, dry and multiple dry year analysis, the City has determined that available supplies, even without SFPUC deliveries, will be sufficient to meet projected demand for several reasons.

First, the model used to estimate future water demand in the UWMP is known to generate highly conservative estimates of future water demand. In the 2005 UWMP, the model projected that City demand would be 30,986 afy by 2010. The City's actual water demand in 2010 was 23,213 afy, or more than 7,700 af below the 2005 estimate (CSC 2015). The model also predicted that City water demand will increase by nearly 8,000 afy between 2010 and 2015. The City's actual water use, however, declined by 1,006 af compared with 2010 levels in 2014. Current water use trends remain substantially below the projected growth for the first UWMP planning period through 2015 (CSC 2015). The City's documented level of water demand since 2005 demonstrates that the end use model used to prepare the UWMP generates conservative demand projections that are significantly higher than actual City water use over

time. The potential supply shortfalls in the UWMP projections are well within the known margin of error of the model (CSC 2015).

**Table 4.9-7**
**2010 UWMP Multiple Dry Year Supply and Demand Projections**
**2015–2035 Without SFPUC Supplies After 2018 (acre-feet)**

| | | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|
| Multiple- dry year first year supply | Supply totals | 37,352 | 32,713 | 32,992 | 33,048 | 33,048 |
| | Demand totals | 31,259 | 33,053 | 34,605 | 36,071 | 37,433 |
| | Difference | 6,093 | -340 | -1,613 | -3023 | -4,385 |
| | Difference as % of Supply | 16.30% | -1.00% | -4.90% | -9.10% | -13.30% |
| | Difference as % of Demand | 19.50% | -1.00% | -4.70% | -8.40% | -11.70% |
| Multiple- dry year second year supply | Supply totals | 37,352 | 32,713 | 32,992 | 33,048 | 33,048 |
| | Demand totals | 32,726 | 34,734 | 36,371 | 37,949 | 37,949 |
| | Difference | 4,626 | -2,021 | -3,379 | -4,901 | -4,901 |
| | Difference as % of Supply | 12.40% | -6.20% | -10.20% | -14.80% | -14.80% |
| | Difference as % of Demand | 14.10% | -5.80% | -9.30% | -12.90% | -12.90% |
| Multiple- dry year third year supply | Supply totals | 37,352 | 32,713 | 32,992 | 33,048 | 33,048 |
| | Demand totals | 33,163 | 35,064 | 36,674 | 38,210 | 38,210 |
| | Difference | 4,189 | -2,351 | -3,682 | -5,162 | -5,162 |
| | Difference as % of Supply | 11.20% | -7.20% | -11.20% | -15.60% | -15.60% |
| | Difference as % of Demand | 12.60% | -6.70% | -10.00% | -13.50% | -13.50% |

*Source: CSC 2015, Table 12B; CSC 2011, page 85, Table 45B.*

The projections also assume that certain conservation savings assumed for normal years will not be enhanced during drier hydrological periods to address potential supply concerns. As described in the UWMP and WSA, the City has substantial legal authority to implement additional voluntary and mandatory conservation measures (e.g., drought curtailment of outdoor irrigation activities) that would significantly reduce water use during a single dry year and multiple dry years. **Table 4.9-8, Summary of City Voluntary and Mandatory Water Demand Management Measures**, summarizes the specific, mandatory water use prohibitions and enforcement mechanisms that the City would implement to reduce water demand as necessary to address water supply limitations in the future by more than 50 percent from normal year levels.

**Table 4.9-8**
**Summary of City Voluntary and Mandatory Water Demand Management Measures**

| Plan | Plan 1 | Plan 2 | Plan 3 | Plan 4 |
|---|---|---|---|---|
| Drought Stage | Advisory | Voluntary | Mandatory | Emergency Curtailment |
| Reduction | Up to 10% | 10% to 20% | 21% to 49% | 50% to greater |
| **1. Water Use Reduction Target** | | | | |
| a) Single family | NA | 80% - 90% of base year | 50% - 80% of base year | 50% of base year |
| b) Master metered multi-family | NA | 80% - 90% of base year | 50% - 80% of base year | 50% of base year |
| c) Non-residential | NA | 80% - 90% of base year | 50% - 80% of base year | 50% of base year |
| **2. Water Use Restrictions** | | | | |
| a) Water waste by irrigation | Prohibited | Prohibited | Prohibited | Prohibited |
| b) Cleaning sidewalks, hard surfaces, etc. | Prohibited | Prohibited | Prohibited | Prohibited |
| c) Washing vehicle w/o shut off valve on hose | Prohibited | Prohibited | Prohibited | Prohibited |
| d) Decorative fountains, operating maintaining | No restriction | Prohibited | Prohibited | Prohibited |
| e) Water for construction purposes | No restriction | Restricted (1) | Restricted (1) | Restricted (1) |
| f) Water waste due to effective plumbing/leaks | Prohibited | Prohibited | Prohibited | Prohibited |
| g) Landscape irrigation | No restriction | Prohibited from 9 AM to 6 PM | Prohibited from 9 AM to 6 PM | Prohibited |
| h) Restaurant water service unless patron requests | No restriction | Prohibited | Prohibited | Prohibited |
| i) New swimming pool or pond construction | No restriction | Restricted | Restricted | Prohibited |
| j) Filling or refilling swimming pools | No restriction | Restricted | Restricted | Prohibited |
| k) Hydrant flushing, except for health and safety | No restriction | Prohibited | Prohibited | Prohibited |
| l) New irrigation connections for new planting | No restriction | Restricted (2) | Restricted (2) | Prohibited (2) |
| m) Irrigation of golf courses except greens and tees | No restriction | No restriction | Restricted (1) | Restricted (1) |
| **3. Enforcement** | | | | |
| a) First violation | Warning | Warning | Warning, citation, up to $500 fine | Warning, citation, up to $500 fine |
| b) Second violation | Warning | Warning | Warning, citation, $100 to $1,000 fine | Warning, citation, $100 to $1,000 fine |
| c) Subsequent violations | Warning, citation, $100 to $1,000 fine, flow restrictor | Warning, citation, $100 to $1,000 fine, flow restrictor | Warning, citation, $100 to $1,000 fine, flow restrictor | Warning, citation, $100 to $1,000 fine, flow restrictor |
| d) Restrictor removal charge | $50 | $50 | $50 | $50 |
| e) Second restrictor removal charge | $100 | $100 | $100 | Remains for duration |

*(1) Recycled water only can be used; (2) New landscaping supplied by recycled water allowed without restriction.*
*Source: Table 13, CSC 2015*

Finally, the proposed project will include a number of water saving measures that were not accounted for in the WSA. Specifically, the WSA assumed recycled water would not be used for the proposed project because recycled water is not currently available at the proposed site. However, the proposed project will extend a recycled water main approximately 500 linear feet along Fremont Street from the intersection of Fremont Street and Alviso Street to the project front on the east side of the intersection of The Alameda and Fremont Street. This recycled water line will provide service to the entire project site, and reclaimed water will be used for irrigation of all landscape areas.

The WSA also did not account for any of the following water saving features that are included as design features of the project:

- New landscape plants will be drought tolerant, native to California or other Mediterranean climates, or other low water use species.
- High efficiency irrigation systems with water-efficient sprinkler heads, and smart controllers that use satellite weather data will be used.
- All water fixtures (faucets, showerheads, and toilets) will be low flow and/or WaterSense certified for low water use.
- All units will be equipped with Energy Star certified dishwashers for low water use.
- Common hot water boiler systems will be used for efficient hot water distribution.
- Whole System Water Balancing Modeling process will be used to provide a holistic water performance evaluation to achieve verified water reduction.

In summary, based on the analysis in the WSA prepared by the City for the proposed project and the information included in the City's UWMP, water demand associated with the proposed project would be served by existing supplies under normal, single dry and multiple dry years, and the development of the proposed project would not result in the need for new or expanded water supply entitlements. The project's impact related to water supply would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact UTL-2:** **Development of the proposed project would require the construction of new or expanded water conveyance systems, the construction of which would not result in significant environmental effects. (*Less than Significant*)**

Potable water service would be provided to the site by the existing and proposed on-site water infrastructure system. All new on-site water infrastructure improvements would connect to an existing

12-inch water main in El Camino Real and an existing 6-inch main in The Alameda. In addition, the proposed project would construct a 12-inch and 24-inch water main in The Alameda and Harrison Street. Finally, the proposed project would extend a recycled water main approximately 500 linear feet along Fremont Street from the intersection of Fremont Street and Alviso Street to the project frontage on the east side of the intersection of The Alameda and Fremont Street. The environmental impacts from the installation of the water mains and recycled water line in The Alameda, Harrison Street, and Fremont Street are analyzed in the other sections of this EIR. Impacts on cultural resources are evaluated in **Section 4.2, Cultural Resources**, and mitigation measures are set forth in that section to address potentially significant impacts to archaeological resources that could be encountered during utility construction. Similarly, impacts associated with construction-phase air pollutant emissions, noise and vibrations, and exposure to subsurface contamination that may be present in the area of utility construction are analyzed in **Section 4.1, Air Quality, Section 4.6, Noise, and Section 4.4, Hazards**, respectively. All impacts would be less than significant with implementation of the proposed mitigation measures. The impact from the construction of new water conveyance systems would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact UTL-3:** **Development of the proposed project would not require the construction of new or expanded wastewater treatment facilities, nor would it result in a discharge that would cause the RWF to exceed the wastewater treatment requirements of the Regional Water Quality Control Board. (*Less than Significant*)**

Wastewater generated by the proposed project and wastewater generated by the existing buildings on the site were calculated in order to estimate the increase in wastewater that would be discharged from the site and to determine if the RWF has sufficient capacity to serve the proposed project. Average dry weather wastewater flows generated by the proposed project would total approximately 97,380 gallons per day (gpd) (0.10 mgd). If the average dry weather wastewater flows associated with the existing residential, commercial and light industrial uses (8,971 gpd) are deducted from this number, the net average dry weather flow from the site would be approximately 88,409 gpd. **Table 4.9-9**, **Estimated Project Average Dry Weather Wastewater Generation**, summarizes the estimated wastewater that would be generated by the proposed project.

**Table 4.9-9**
**Estimated Project Average Dry Weather Wastewater Generation**

| Land Use | Wastewater Generation (gpd) | Wastewater Generation (gpm) |
|---|---|---|
| Residential | 69,300 | 48.1 |
| Retail | 28,300 | 19.7 |
| **Total Project Generation** | **97,380** | **67.6** |
| Occupied On-Site Buildings | 8,971 | 6.2 |
| **Net Wastewater Generation** | **88,409** | **61.4** |

*Source: CEA, 2015*
*Notes:*
*gpd = gallons per day*
*gpm = gallons per minute*

Currently, the RWF treats an average of 110 mgd and has a capacity of 57 mgd available to serve future growth. As described above, the City of Santa Clara is allocated 22.585 mgd of treatment capacity at the RWF. In 2009, the average dry weather flow generated by the City of Santa Clara was approximately 13.3 mgd (CSC 2011b). The proposed project would add 0.09 mgd, increasing the average volume of wastewater conveyed to the RWF from the City of Santa Clara to 13.39 mgd, which would be within the treatment capacity allocated to the City of Santa Clara.

For purposes of this analysis, it is assumed that the proposed project would be fully occupied in 2020. The General Plan anticipated increases in wastewater flows through 2015 such that the City would discharge up to 16.5 mgd to the RWF (CSC 2011b). If the proposed project's contribution is conservatively added to the estimated 2015 daily discharge for the City as a whole, the total daily discharge of 16.59 mgd would still remain within the City's allocation of treatment capacity at the RWF. Therefore, the proposed project would not require the construction of additional wastewater treatment capacity and the impact would be less than significant.

The wastewater flows from the project site would be similar to flows generated by mixed use projects and would not have any specific characteristics/quality that would not be treatable at the RWF. In addition, as noted above, the additional wastewater discharged to the RWF by the proposed project would not exceed the capacity of the treatment plant. Given this, the proposed project would not result in wastewater flows that would cause the RWF to exceed the wastewater treatment requirements imposed on the facility by the San Francisco Bay Regional Water Quality Control Board. The impact would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

**Impact UTL-4: Development of the proposed project would not require the construction of new or expanded wastewater conveyance systems. (*Less than Significant*)**

Wastewater generated within the project site would be collected through an on-site collection system and discharged into the existing wastewater mains in Benton Street and El Camino Real for conveyance to the RWF. The sewer system for the project site would consist of 8- and 10-inch sewer lines that extend to the existing sewer mains in Benton Street and El Camino Real. The *City of Santa Clara Sanitary Sewer Capacity Assessment for General Plan Update* analyzed demand for wastewater infrastructure and current capacity by using the CSC sanitary sewer capacity model to evaluate potential impacts to sewer trunk lines in the City. The technical memorandum, dated May 5, 2015, issued by the City for the sanitary sewer model run indicated that one 33-inch trunk sewer line would surcharge. Since the 33-inch trunk sewer is deep and has seven feet of freeboard, the surcharge is considered acceptable. The proposed project would not require the upsizing of sanitary sewer pipelines or the expansion of any other wastewater lines that are not already planned by the City. Standard impact fees will be paid by the project applicant to contribute to the sewer improvements and connections. The impact related to wastewater conveyance systems would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact UTL-5: Development of the proposed project would require the construction of new storm water drainage facilities, the construction of which would not result in significant environmental effects. (*Less than Significant*)**

The project site is currently served by the City's municipal storm drainage facilities, as described above. The City owns and maintains the 24-inch to 48-inch storm drains in Benton Street, the 60-inch storm drain in Sherman Street, and the 48-inch and 60 inch storm drains in El Camino Real. No upsizing of the storm drain systems in Sherman and Harrison Streets is anticipated because the site drainage patterns and volumes would remain substantially the same as they are currently. The proposed project would remove a dead end portion of the pipe section on Benton Street located within the area of Sherman Street. In addition, the project would reroute the storm drain currently in the dead end portion of Sherman Street around the project site to the east along Benton Street and then to the north along El Camino Real. The new segment of storm drain would be upsized as part of the proposed project to 72 inches to maintain prior capacity. The environmental impacts from the installation of the storm drains in El Camino Real and Benton Street are analyzed in the other sections of this EIR. Impacts on cultural resources are evaluated in **Section 4.2**, and mitigation measures are set forth in that section to address potentially significant impacts to archaeological resources that could be encountered during utility construction.

Similarly, impacts associated with construction-phase air pollutant emissions, noise and vibrations, and exposure to subsurface contamination that may be present in the area of utility construction are analyzed in **Section 4.1, Section 4.6, and Section 4.4 respectively.** All impacts would be less than significant with implementation of the proposed mitigation measures. The impact from storm drainage improvements would be less than significant.

The on-site storm water drainage system would consist of 12-inch storm drains located throughout the project site. Storm water from the proposed impervious surfaces on the site would be collected, treated, and discharged to the storm drains. Storm water treatment would be provided through a combination of bioretention areas and media filter vaults. A minimum of 30 percent of the post-development storm water volume would be treated through bioretention. The remainder of the post-development storm water volume would be treated through subgrade media filter vaults located at or near discharge points to the existing public storm drain system. Bioretention areas and media filter vaults would remove pollutants from on-site storm water runoff prior to discharge to the City's storm drain system in compliance with the City of Santa Clara Public Works Department guidelines and standards, as well as the San Francisco Bay Regional Water Quality Control Board's Municipal Regional Permit requirements. The environmental impacts from the construction of storm water drainage system on the project site are also analyzed in the other sections of this EIR noted above, and would be less than significant with the implementation of the proposed mitigation measures.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact UTL-6:** **Development of the proposed project would generate solid waste, but not enough to require the expansion of the permitted capacity of a regional landfill. (*Less than Significant*)**

As previously discussed, the City of Santa Clara diverted 52 percent of its solid waste in 2006, which complies with the goals specified in AB 939 (CSC 2014). The City of Santa Clara, including the project site, disposes solid waste at the Newby Island Landfill. The Newby Island Landfill has a permit to accept a maximum of 4,000 tons of solid waste per day and a remaining disposal capacity of about 21.2 million cubic yards (CalRecycle 2014). The City currently has a contract with owners of Newby Island Landfill to provide disposal capacity through 2024. In 2009, a Draft EIR was prepared for the Newby Island Sanitary Landfill and the Recycle Rezoning Project. Newby Island Landfill was in the process of seeking authorization from the City of San Jose to expand the permitted capacity to accept an additional 15 million cubic yards (CSC 2011b). The Final EIR was certified by the City of San Jose Planning Commission in 2012 (CalRecycle 2015).

As shown in **Table 4.9-10**, **Estimated Project Solid Waste Generation**, the occupancy and operation of the proposed project would generate approximately 0.87 ton of solid waste per day. When considering the waste generated by the existing buildings on the project site (0.04 ton per day), the net increase in solid waste generated would be 0.83 ton per day. The proposed project has been designed to ensure wastes generated on the site are recycled and the amount requiring landfill disposal is minimized. The trash room included as part of the proposed project would include two trash chutes – one chute for waste and the other chute for recycling. The trash would then be consolidated in a large trash room on the first level for compaction and pick-up. If a diversion rate of 52 percent is applied, the proposed project would generate approximately 0.40 ton of solid waste per day for disposal at the Newby Island Landfill.

The waste generated by the project (0.40 ton per day) would constitute about 0.1 percent of the total waste disposed by the City at the Newby Island Landfill at the present time, and would constitute approximately 0.01 percent of the daily capacity permitted at the Newby Island Landfill. The solid waste produced on the site is a small amount of solid waste compared to the landfill's daily permitted capacity. Therefore, the proposed project would be served by a landfill with sufficient permitted capacity to accommodate project solid waste disposal needs. Impacts would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

**Table 4.9-10**
**Estimated Project Solid Waste Generation**

| Land Use | Number of Units or Square Feet | Generation Factor* | Solid Waste Generation (tons/day) |
|---|---|---|---|
| Apartments | 385 units | 4 lb/du/day | 0.77 |
| Leasing/Amenity Space | 10,000 sf | 6 lb/1,000 sf/day | 0.03 |
| Retail | 27,000 sf | 5 lb/1,000 sf/day | 0.07 |
| **Subtotal** | | | **0.87** |
| Occupied On-Site Residential Buildings | 10 units | 4 lb/du/day | 0.02 |
| Occupied On-Site Commercial/Retail Buildings | 7,780 sf | 5 lb/1,000 sf/day | 0.02 |
| Occupied On-Site Self Storage Buildings** | 94,919 sf | -- | -- |
| **Subtotal** | | | **0.04** |
| **Net Solid Waste Generation** | | | **0.83** |
| 52 percent diversion rate | | | (0.43) |
| **Project Solid Waste Generation** | | | **0.40** |

*Source: Impacts Sciences, Inc., 2015*
*Note: lb = pounds; du = dwelling unit; sf = square foot*
** Generation factors from CalRecycle 2013*
*** A solid waste generation rate has not been assigned as the generation of solid waste at the self-storage buildings on the project site is considered minimal.*

**Impact UTL-7:** **Development of the proposed project would comply with all applicable federal, State, and local statutes and regulations related to solid waste. (*Less than Significant*)**

State law requires a 50 percent diversion of solid waste from landfills. The City of Santa Clara has met and exceeded the 50 percent waste diversion goal. In 2006 the waste diversion for the City of Santa Clara was 52 percent. Therefore, the City is in compliance with state law. The City is committed to continuing to reduce waste by implementing recycling, composting, and waste minimization programs. The General Plan has set a goal of 90 percent waste diversion between the years 2010 and 2025. The proposed project would take part in the programs set up by the City and would divert solid waste as appropriate. Therefore, the proposed project would not conflict with federal, state, or local statutes and regulations and would have a less than significant impact.

**Mitigation Measures**: No mitigation measures are required.

**Impact UTL-8:** **The proposed project would comply with Title 24 and not result in the excessive consumption of energy resources that could not be accommodated by the long-term electricity supply and distribution system of SVP or the long-term natural gas supply and distribution system of PG&E. (*Less than Significant*)**

The proposed project is estimated to require approximately 3,363 megawatt hours (MWh) per year of electricity. This includes usage associated with residential, retail, leasing and amenity uses. The existing residential, commercial and light industrial space on the project site generates an estimated 670 MWh of electricity demand. If this demand is subtracted from the project's projected electricity demand, the net increase in electricity usage due to the proposed project would be 2,693 MWh, as shown in **Table 4.9-11 Estimated Project Electricity Demand**.

The Greenpoint Checklist has been completed and submitted by the project applicant to the City which indicates that the residential usage of electricity will at a minimum be at least 10 percent better than Title 24 (2013) standards and that Energy Star appliances will be installed in the residential units. In addition, interior and exterior lighting will utilize energy efficient LED and fluorescent light fixtures. Therefore, the project would meet the requirements of Title 24. A minimum of 15 percent of the roof areas will be

reserved for future photovoltaic (PV) solar installation, and infrastructure (conduit, structural elements, etc.) will be provided to facilitate the future PV solar installation. The parking garage will be equipped with Electric Vehicle (EV) charging stations. The project would also comply with General Plan Policy 5.10.3-P4 that requires new development to promote sustainable buildings and land planning, including programs that reduce energy and water consumption in new development. SVP has indicated that it will be able to provide electricity to the project site utilizing existing infrastructure and power sources (SVP 2015). Finally, the proposed project would be designed to a minimum LEED Gold or greater equivalent standard.

Project construction would require small quantities of electricity; however, diesel fuel would be the primary energy source that would power construction equipment and generators.

**Table 4.9-11**
**Estimated Project Electricity Demand**

| Proposed Land Use | KWH Usage Yearly | MWh Usage Yearly |
|---|---|---|
| Residential | 1,264,560 | 1,265 |
| Retail | 254,880 | 255 |
| Leasing | 67,000 | 67 |
| Amenity | 46,200 | 46 |
| Parking | 1,729,920 | 1,730 |
| **Subtotal** | **3,362,560** | **3,363** |
| Occupied On-Site Buildings | 669,919 | 670 |
| **Net Usage** | **2,692,641** | **2,693** |

*Source: Illingworth & Rodkin 2015*
*gsf = gross square feet*

The proposed project is estimated to require about 2,750 million British Thermal Units per year (mBTU/y) of natural gas. This includes usage associated with residential, retail, leasing and amenity uses and also assumes that the residential natural gas usage will be at least 15 percent better than Title 24 (2008) and that Energy Star appliances will be installed in the residential units. The net natural gas usage for the proposed project would be 1,154 mBTU/y, as shown in **Table 4.9-12, Estimated Project Natural Gas** Demand.

**Table 4.9-12**
**Estimated Project Natural Gas Demand**

| Proposed Land Use | KBTU Usage Yearly | MBTU Usage Yearly |
|---|---|---|
| Residential | 2,513,940 | 2,514 |
| Retail | 50,490 | 50 |
| Leasing | 51,720 | 52 |
| Amenity | 133,380 | 133 |
| Parking | -- | -- |
| **Subtotal** | **2,749,530** | **2,750** |
| Occupied On-Site Buildings | 1,595,743 | 1,596 |
| **Net Usage** | **1,153,787** | **1,154** |

*Source: Illingworth & Rodkin 2015*
*gsf = gross square feet*

It is anticipated that PG&E would also be able to provide natural gas to the project site using existing infrastructure (PG&E 2015). Only minor modifications to the on-site distribution system would be required to connect the proposed project to the existing off-site electrical system. Transformers would be constructed on the site to serve the proposed project. Further, the proposed project would comply with Title 24, which requires the inclusion of energy conservation features in building design and construction.

Furthermore, the proposed project is consistent with planning and population growth projections for the City of Santa Clara, as discussed in **Section 4.10, Other Topics** under **Subsection 4.10.8 Population and Housing**. The electrical loads that would be required by the proposed project are within the parameters of projected load growth in the City, and SVP will be able to meet the demand in this area. Similarly, the natural gas demand associated with the proposed project is within the parameters of projected load growth, and PG&E will be able to meet the demand in this area. Therefore, the proposed project would not result in the consumption of energy resources that could not be accommodated within the long-term electricity supply and distribution system of SVP or the long-term natural gas supply and distribution system of PG&E. The impact would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

**Impact UTL-9:** **The proposed project would not involve a wasteful use of energy as related to project construction activities or transportation energy use. (*Less than Significant*)**

During construction of the proposed project, energy resources, mainly diesel and gasoline, would be used to operate construction equipment, power tools, and construction vehicles. Although a substantial amount of these resources would be used, their use would not be considered a wasteful use. The proposed project would comply with General Plan Policy 5.10.3-P3, which requires projects to reduce energy consumption through sustainable construction practices, materials, and recycling. More than 65 percent of all demolition materials and construction debris will be recycled. Existing concrete from demolition will be crushed and re-used as base rock for the building foundations, roadways, sidewalks, and utility trenches. In addition, to minimize air emissions from project construction activities, **Mitigation Measure AIR-1** is proposed, which requires, among other things, that during construction (1) the proposed project shall minimize idling times by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes; and (2) all construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. Implementation of these measures would also reduce energy use during project construction.

Concerning transportation energy use during operation, the proposed project is a mixed-use, transit-oriented development that would include direct connections to the adjacent Santa Clara Station. The proposed project would include a network of pedestrian and bicycle paths to and from the Station, Santa Clara University, area retail and service uses, parks, and all residential buildings. In addition, the project would encourage the use of bicycles by providing secure bike lockers for residents and retail tenant employees and bicycle racks for retail users and guests. Finally, the addition of 385 residential units to the City of Santa Clara will help improve the City's jobs/housing balance. For these reasons, it is expected that the number of vehicles trips generated by the proposed project would be less than a comparable development that is not located near transit or doesn't provide bicycle and pedestrian amenities, and less fuel would be consumed by vehicles belonging to residents and retail customers. Therefore, the project would not result in wasteful transportation energy use and the impact related to energy use would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

### 4.9.4.4 Cumulative Impacts and Mitigation Measures

**Cumulative Impact UTL-1:** **The proposed project, in conjunction with other past, present and reasonably foreseeable future development, would not result in a significant cumulative impact on water supply, wastewater, solid waste, electricity, and natural gas. (*Less than Significant*)**

The following analysis evaluates the significance of potential cumulative impacts of the proposed project on utilities in conjunction with the impacts of past, present and reasonably foreseeable future development, included the projects listed in **Table 4.0-1, Approved Projects**, and **Table 4.0-2, Pending Projects**.

#### *Water Supply*

The CSC 2010 UWMP shows that water supply deficits would occur in 2030 and 2035 under the single-dry year scenario and under the multiple dry year scenarios and that without the SFPUC water supply, water supply deficits would occur in 2020, 2025, 2030, and 2035 under average year, dry year, and multiple dry year scenarios. Although the tables indicate deficits, the City concluded that adequate water supplies are available to meet water demand projected until 2035 by using conservation measures, additional groundwater, and recycled water. In addition, the analysis concluded that although the proposed project would contribute to the cumulative water demand, the City has adequate water supplies to serve the project along with projected growth in the City as determined by the City and the demand associated with the proposed project has been incorporated in the 2010 UWMP. Therefore, the City has adequate water supplies for future growth and the cumulative impact would be less than significant.

#### *Wastewater Conveyance and Treatment*

The City owns and maintains the sanitary sewage collection and conveyance system within the City. The phased Capital Improvement Program developed as part of the *City of Santa Clara Sanitary Sewer Capacity Assessment* includes several projects that would upgrade the existing sewage collection and conveyance system to accommodate planned growth within the City. The proposed project would not require expansion of the wastewater lines beyond the improvements already constructed by the City. Furthermore, the City will continue to evaluate the collection and conveyance system as part of the City's development review process and require necessary upgrades to the system. Therefore, cumulative impacts would be less than significant.

As described above, the City of Santa Clara is allocated 22.585 mgd of treatment capacity at the RWF. In 2009, the average dry weather flows were approximately 13.3 mgd. The General Plan anticipated increases in wastewater flows as growth occurs, with average dry weather flows of 16.6 mgd by 2015 and 20.1 mgd by 2035 (CSC 2011b). The proposed project is expected to be fully occupied by early 2019 and as shown in the analysis under **Impact UTL-3** above, the average dry weather flows from the project would remain within the City's projected demand for treatment capacity. Given this, the RWF has sufficient capacity to accommodate wastewater flows generated by the proposed project and planned projects expected to be in operation by and beyond 2019. Therefore, new wastewater treatment facilities would not be required to serve the project and other planned projects. As the RWF has sufficient capacity available to serve the proposed project and related projects, the cumulative impact would be less than significant.

### *Solid Waste*

The City of Santa Clara General Plan EIR evaluated the effects of the projected growth within the City on solid waste disposal capacity and determined that adequate landfill capacity is available through 2024 to serve the projected growth. The Newby Island Landfill has a remaining capacity of approximately 18.3 million cubic yards and a contract is in place that provides capacity for disposal of all solid waste generated within the City at the landfill through 2024. The 2006 diversion rate for landfill disposal for the City was 52 percent, which complies with the goals specified in AB 939 (CSC 2014). The City will continue to divert solid waste from Newby Island Landfill through recycling and waste reduction programs. As the City is under contract with Newby Island Landfill through 2024 and sufficient landfill capacity exists to accommodate near-term growth, including the proposed project and related projects, the cumulative impact would be less than significant in the near term. However, with respect to solid waste disposal after 2024, the General Plan EIR notes that the City does not have a specific proposal and will undertake a process to identify a solution prior to 2024, and that the impact related to solid waste disposal capacity would remain significant and unavoidable. As discussed above under **Impact UTL-6**, the proposed project would generate a small amount of waste for disposal in a regional landfill. The waste generated by the project (0.40 ton per day) would constitute about 0.1 percent of the total waste disposed by the City at the Newby Island Landfill at the present time, and approximately 0.01 percent of the daily capacity permitted at the Newby Island Landfill. Given the small amount of project-generated waste that would be disposed of in a landfill, the impact of the proposed project on landfill capacity would not be cumulatively considerable.

### *Electricity and Natural Gas*

The City of Santa Clara is largely developed and practically all related projects involve redevelopment. Existing electricity and natural gas infrastructure currently serve the project site and each related project site. Related projects would be connected to the existing electricity and natural gas distribution system through minor extensions, which would not result in a significant environmental impact.

The project's demand for electricity by itself would not require the construction of new power generation facilities, and as noted above under **Impact UTL-8**, the project's impact related to off-site generation facilities would be less than significant. The proposed project's demand would, however, combine with the demand for electricity associated with other proposed projects in the region and could contribute to the need for an expansion of an existing power plant or the construction of a new power plant. About 16 percent of the electricity used in Santa Clara is generated at SVP-owned power plants within Santa Clara and 84 percent is purchased from sources outside of Santa Clara (SVP 2014). The other sources of electricity are diverse and widespread ranging from hydroelectric plants to wind power. Both electricity and gas needed by the cumulative projects may in fact be generated out of state. It is therefore not reasonable to predict where the new supply sources would be located or to evaluate the environmental consequences from the construction and operation of such facilities. Furthermore, if the new power generation facilities were to be located in California, they would be subject to environmental review and would be required to avoid or minimize their environmental impacts. Accordingly, the cumulative impact would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

## 4.9.5 REFERENCES

California Department of Water Resources (DWR). 2013a. *California State Water Project and Central Valley Project.*

DWR. 2013b. *Draft State Water Project Delivery Reliability Report 2013*.

California Department of Resources Recycling and Recovery (CalRecycle). 2013. "Jurisdiction Diversion/Disposal Rate Detail." http://www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversionPost2006.aspx

CalRecycle. 2014. "Active Landfills Profile for Newby Island Sanitary Landfill." http://www.calrecycle.ca.gov/SWFacilities/Directory/43-AN-0003/Detail/

CalRecycle. 2015. *Estimated Solid Waste Generation Rates for Commercial*. http://www.calrecycle.ca.gov/WasteChar/WasteGenRates/

California Energy Commission (CEC). 2013. *Energy Almanac, Total System Power for 2012: Changes from 2011, 2012 Total System Power in Gigawatt Hours*. http://energyalmanac.ca.gov/electricity/system_power/2012_total_system_power.html

CEC. n.d. *Energy Almanac, Overview of Natural Gas in California, Natural Gas Supply*. http://energyalmanac.ca.gov/naturalgas/overview.html

California Public Utilities Commission (CPUC). 2013. *Natural Gas and California*. http://www.cpuc.ca.gov/PUC/energy/Gas/natgasandCA.htm

City of San José. 2009. *Environmental Impact Report for the Newby Island Sanitary Landfill and the Recyclery Rezoning Project*. September.

City of San José. 2011. *Environmental Impact Report for the Envision San José 2040 General Plan*. Prepared by David J. Powers & Associates.

City of Santa Clara (CSC). 2009. *Sanitary Sewer Capacity Assessment for General Plan Update*. September.

City of Santa Clara (CSC). 2011a. *2010 Urban Water Management Plan*. May.

CSC. 2011b. *City of Santa Clara 2010–2035 General Plan Integrated Final Environmental Impact Report*. January.

CSC. 2014. *City of Santa Clara 2010-2035 General Plan*. Adopted November 16, 2010. Amended December 2014.

CSC. 2015a. *Mission Town Center Water Supply Assessment for Compliance with California Water Code Section 10910.* October.

CSC. 2015b. City of Santa Clara Drought Update Website. Available at: http://santaclaraca.gov/government/departments/water-sewer-utilities/drought-update

Illingworth & Rodkin. 2015. Spreadsheet of outputs from CalEEMod, Mission Town Center.

Pacific Gas and Electric Company (PG&E). 2015. *Correspondence re: gas distribution and service facilities for 575 Benton Street, Santa Clara, CA 110121382*. May.

Santa Clara Valley Water District (SCVWD). 2011. *2010 Urban Water Management Plan*. July.

SCVWD. 2015. *Water Conservation*. http://www.valleywater.org/programs/waterconservation.aspx.

Silicon Valley Power (SVP). 2015. *Correspondence re: electric service for Mission Town Center, 575 Benton, Santa Clara, CA.* May.

SVP. 2014. *SVP FAQ*.

State Water Resources Control Board (SWRCB). 2015a. *State Water Board Drought Year Water Actions Taken with California Environmental Quality Act Suspensions.* http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/wb_actions.shtml. Accessed September 2, 2015.

SWRCB. 2015b. *Water Conservation Portal - Emergency Conservation Regulation.* http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/emergency_regulation.shtml. Accessed September 2, 2015.

SWRCB. 2015c. *State Water Resources Control Board Resolution No. 2015-0032 To Adopt An Emergency Regulation For Statewide Urban Water Conservation*. May.

SWRCB. 2015d. *Media Release. California Water Use Drops 27.3 Percent, Exceeds 25 Percent Mandate For June.* July.

US Environmental Protection Agency (US EPA). 2015. Corporate Average Fuel Economy (CAFE). http://www3.epa.gov/fueleconomy/regulations.htm

# 4.10 OTHER RESOURCE TOPICS

## 4.10.1 INTRODUCTION

This section describes all other environmental topics listed in Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, including aesthetics, agricultural and forestry resources, biological resources, geology and soils, hydrology and water quality, mineral resources, and population and housing, that would either not be affected by the proposed project or would involve impacts of the project that would be clearly less than significant or less than significant with mitigation incorporated.

## 4.10.2 AESTHETICS

In September 2013, Governor Brown signed Senate Bill 743, which made several changes to CEQA for projects located in areas served by transit (i.e., transit-oriented development or TOD). One of the changes included a provision to exempt from analysis the aesthetic impacts of the project if the proposed project is a "residential, mixed-use residential, or employment center project on an infill site within a transit priority area." An infill site is defined by SB 743 as "a lot located within an urban area that has been previously developed" while a transit priority area is defined by the statute as "an area within one-half mile of a major transit stop."

All of the lots that make up the project site are completely developed and are surrounded by existing development. In addition, the project consists of a mixed-use residential community that is located within 500 feet of the Santa Clara Transit Center, which is a major transit stop in the City. For these reasons, the proposed project qualifies for this exemption, and the analysis below is provided for informational purposes only.

According to Appendix G, the impacts of a proposed project related to aesthetics would be considered significant if the project would:

- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- substantially degrade the existing visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

**Impact AES-1: The proposed project would have no effect on a scenic vista, or substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.**

A scenic vista is generally defined as an expansive view of highly valued landscape as observable from a publicly accessible vantage point. The proposed project site is not part of any scenic vista designated in the City's General Plan or other applicable planning documents. The site is flat and is located in an urbanized area surrounded by residential, commercial, and institutional uses, and the project is not expected to cause substantial aesthetic changes to the area, as discussed in further detail below. Based on these factors, the proposed project would not have any effect on a scenic vista.

The project site is not adjacent to a state scenic highway (CSHP 2015) and does not contain scenic resources as identified in the Santa Clara General Plan or any other land use plans. As a result, the proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

**Impact AES-2: The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings.**

The project proposes to construct a large building on several developed parcels surrounded mainly by commercial and residential development. The proposed building will be of a scale that is greater than the existing development near the project site, and will be highly visible from areas surrounding the site. The visual character on the project site would change from a mix of light industrial, commercial and residential structures uses that are one to two-stories in height to a large mixed-used residential building that is five stories in height. However, this change would not be considered adverse, as much of the existing development on the project site consists of a number of warehouse structures, a motley group of commercial and residential buildings, parking lots, dead end streets and few street trees, and does not possess high aesthetic value. In addition, the frontages of the proposed project on The Alameda and Benton Streets are planned to be developed with features that improve the project site's visual integration with the existing single-family residential uses to the west and south of the project site. For example, the frontage along The Alameda will be set back 17 to 24 feet and will include design elements such as canvas awnings, stucco detailing and ground level stoops while the frontage along Benton Street will include design features such as wrought iron railing and a low roof arcade. All of these features would work to promote a more human scale at the ground level of the building. Serving as a transition to the residential neighborhood to the northwest, a section of three and four-story housing located on the project site at the north end of The Alameda is articulated in a Craftsman style. The combination of the lower building scale and detailed character of the Craftsman style provides a contextual response that would reduce the

scale of the proposed design as well as reflect the random pattern of development in the existing neighborhood. Furthermore, the proposed landscaping would include street trees, ornamental trees and shrubs that would soften the overall visual character of the proposed structure at ground level. Finally, pursuant to Santa Clara City Code Chapter 18.76, the conceptual plans of the proposed project will undergo Architectural Review by the City, where the design of the proposed building would be reviewed to ensure that the building and associated improvements are compatible with existing development. Therefore, while the change in visual character under the proposed project would be substantial, the change would not substantially degrade the existing visual character of the site or its surroundings.

**Impact AES-3: The proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.**

The project site currently includes several sources of light and glare, including streetlights and building windows. However, nighttime illumination levels are not high throughout the site due to the low intensity of development and the types of uses present, some of which do not involve any nighttime activity or illumination. Uses surrounding the project site that are sensitive to light levels and glare include a residence hall and single-family residential uses to the west, north and south.

Development of the proposed project would replace the existing uses with a large building that would be up to three stories high along the façade fronting The Alameda and up to five stories high on the other three facades of the project. The larger structure along with the presence of retail uses along Benton Street and El Camino Real would increase the nighttime illumination on the project site from current levels. Lighting associated with the proposed residential and commercial uses would include interior lights, architectural and/or thematic accent lighting to highlight building elements or details, soft accent lighting for landscaping where appropriate, exterior security lighting, and wall- or pole-mounted light fixtures. All lighting of outdoor areas will be directed onto driveways, walkways, and parking areas and away from adjacent properties and public rights of way to avoid any light impacts from lighting fixtures included in the project. Furthermore, trees that would line the perimeter of the site would also minimize light spillover. For these reasons, the new lighting established on the site will not result in a substantial increase in light that could adversely affect nighttime views in the area.

Glare from building windows would increase under the proposed project as the surface area of the building windows would be greater than under existing conditions. However, canvas awnings would shield some of the building windows on the ground level and some windows would be set back from the edge of the building with balconies. In addition, non-reflective materials would be used in the construction of the proposed project, and thus the project would not result in a substantial new source of glare that would adversely affect daytime views in the area.

## 4.10.3 AGRICULTURE AND FORESTRY RESOURCES

In accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, the impacts of the proposed project related to agriculture and forestry resources would be considered significant if it would:

- convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- conflict with existing zoning for agricultural use, or a Williamson Act contract;
- conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526);
- result in the loss of forest land or conversion of forest land to non-forest use; or
- involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

**Impact AG-1:** **The proposed project would not convert farmland to non-agricultural use, conflict with existing zoning for agricultural use or a Williamson Act contract, or conflict with existing zoning for, or cause rezoning of, forest land or timberland. In addition, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use, or involve other changes in the existing environment that could result in conversion of Farmland to non-agricultural use. (*No Impact*)**

The project site is developed with a mix of land uses, including light industrial uses such as a self-storage complex and auto repair shop, single and multifamily residential uses, and a restaurant. The project site is located in a developed area with no agricultural land uses near the site. The project site is not currently used for agriculture, and is not designated as Important Farmland on maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP 2014). No portion of the project site is zoned for agricultural use, forest land, or timberland. In addition, there is no Williamson Act contract applicable to the project site or its vicinity (WAP 2012). Implementation of the project would not conflict with existing agricultural, forest land, or timberland zoning or with a Williamson act contract. The proposed project would have no impact on agricultural or forest resources.

**Mitigation Measures**: No mitigation measures are required.

## 4.10.4 BIOLOGICAL RESOURCES

In accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, the impacts of the proposed project related to biological resources would be considered significant if it would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan; or
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

**Impact BIO-1:** **The proposed project could have an adverse effect on special-status bird and non-special status bird species during the nesting season. (*Potentially Significant; Less than Significant with Mitigation*)**

A biological resources assessment dated May 2015 was prepared by WRA Environmental Consultants to determine whether sensitive biological communities and special-status plant and wildlife species or their habitat are present on the project site that could be potentially affected by the proposed project. This assessment is included in its entirety in **Appendix 4.10** of this Draft EIR.

As the project site is completely developed with buildings, parking lots, and streets, and no natural habitats remain on the site, no special-status plant species have potential to occur on the project site. Any areas on the project site that can support vegetation are landscaped and regularly maintained to support the ornamental species that are selectively planted in the areas. Similarly, no special-status wildlife species have potential to occur on the project site because no natural habitats remain on the site or in its vicinity. Although Swainson's hawk (*Buteo swainsoni*) and hoary bat (*Lasiurus cinereus*) have both been recorded within 0.5 mile of the project site, the dates of these occurrences are 1889 and 1883 respectively. Considering the age of these occurrences, the extent of urban development in the area since that time, a

lack of additional local occurrences, these occurrences represent a historical presence rather than potential occurrences in the present day. In addition, although the CNDDB records indicate that American peregrine falcon (*Falco peregrinus anatum*) and California tiger salamander (*Ambystoma californiense*) occur in the wider project area, based on site conditions, there is little to no potential for these species to occur within or adjacent to the project site (WRA 2015).

Nesting passerines and other unlisted/non-raptor species as well as raptor species (both listed and unlisted) are protected under the Migratory Bird Treaty Act (MBTA) and/or the California Fish and Game Code. These birds may use trees on or adjacent to the project site for nesting and foraging. There is potential for construction-related impacts to nesting birds if trees or structures containing active nests are removed, pruned, or otherwise disturbed during the breeding season (February 1 through August 31). Additionally, loud noise associated with construction activity has the potential to disturb nesting occurring in close proximity of the construction site and result in the abandonment of an active nest. The loss of an active nest is considered a potentially significant impact.

The following mitigation measures would be required to mitigate impacts to special-status birds and non-special status birds protected under the MBTA and California Fish and Game Code to a less than significant level.

**Mitigation Measures:**

**BIO-1** For the protection of special status bird species and birds species protected by the Migratory Bird Treaty Act and Fish and Game Codes, project activities shall occur during the non-breeding bird season to the extent feasible (September 1 through January 31). However, if vegetation removal, grading, demolition of structures, or initial ground-disturbing activities must occur during the breeding season (February 1 through August 31), a survey for active bird nests shall be conducted by a qualified biologist no more than 14 days prior to the start of these activities. The survey shall be conducted in a sufficient area around the work site to identify the location and status of any nests that could potentially be affected by project activities.

If active nests of protected species are found within project impact areas or close enough to these areas to affect breeding success, a work exclusion zone shall be established around each nest by a qualified biologist. Established exclusion zones shall remain in place until all young in the nest have fledged or the nest otherwise becomes inactive (e.g., due to predation). Appropriate exclusion zone sizes vary dependent upon bird species, nest location, existing visual buffers and ambient sound levels, and other factors; an

exclusion zone radius may be as small as 50 feet (for common, disturbance-adapted species) or as large as 250 feet or more for raptors. Exclusion zone size may also be reduced from established levels if supported with nest monitoring by a qualified biologist indicating that work activities outside the reduced radius are not adversely impacting the nest.

**Significance after Mitigation:** Less than significant

---

**Impact BIO-2:** **The proposed project would not affect any riparian habitat, sensitive natural community, or wetlands nor interfere with the movement of any wildlife species. (*No Impact*)**

The project site is completely developed, and no riparian habitat or other sensitive natural community is present on the site. In addition, no wetlands or other waters subject to jurisdiction by the United States Army Corps of Engineers, Regional Water Quality Control Board or California Department of Fish and Wildlife occur on the project site (WRA 2015). Therefore, the proposed project would not affect riparian habitat or other sensitive natural communities on the project site

One sensitive natural community within the region that could be affected by the project is serpentine grassland. This rare land cover type is not found at the project site but is important due to its connection with the Bay checkerspot butterfly, a federally listed species, and several rare plant species. Air quality modeling and habitat analysis have demonstrated how serpentine grasslands in the Santa Clara Valley have been affected by atmospheric nitrogen sources from throughout the South Bay. Nitrogen becomes airborne and then eventually settles out on the landscape. When it settles out onto natural habitats it serves as an inadvertent fertilizer, adding nitrogen to the soil. Serpentine grasslands are naturally nutrient poor, which is what makes them unique. As a result, a nutrient-poor habitat creates an environment where many rare plants occur. When those habitats are fertilized by atmospheric nitrogen, it enables nonnative plants to overrun the native plants and reduce habitat quality overall.

The Bay checkerspot butterfly relies on the native dotseed plantain (*Plantago erecta*),[1] which only grows in serpentine grassland habitat. The added nitrogen allows nitrogen-poor serpentine soils to be invaded by nonnative annual grasses that displace the native forbs that provide caterpillar food and adult nectar for the butterfly. Native species' cover and richness are reduced, and native plant species, including the

---

1 *Plantago erecta* is referred to by a number of common names; the Santa Clara Valley Habitat Plan refers to it as dwarf plantain.

dotseed plantain, become less prevalent. The major invasive grass species include Italian ryegrass and soft brome, with localized stands of common barley and compact brome (*Bromus madritensis*). Dense stands of dotseed plantain across many slopes and soil depths are essential for Bay checkerspot butterfly populations.

As discussed in **Section 4.8, Transportation and Traffic**, the project would generate approximately 1,725 net new daily vehicle trips, which in turn would result in the release of nitrogen into the atmosphere. The increase in nitrogen could have a negative effect on the dotseed plantain found in serpentine grassland habitat, which is essential for Bay checkerspot butterfly populations. Loss of host plants and nectar sources due to nonnative grass invasions could lead to a rapid decline and eventual extinction of the populations.

The closest Bay checkerspot butterfly populations to the project site are in the Santa Teresa hills, just south of San Jose (approximately nine miles from the project site) and on Coyote Ridge (approximately 12 miles south of the project site). In 2012, the Santa Clara Valley Habitat Plan conducted an analysis to estimate the contributions of various sources and geographic areas to nitrogen deposition within the Bay checkerspot butterfly habitats (SCVHCP Appendix E).[2] The air quality analysis completed for receptors in those locations, and others farther south, determined that 46 percent of nitrogen deposited on serpentine grasslands in Santa Clara County comes from mobile and stationary sources within the City of San Jose. Other parts of Santa Clara County, including the City of Santa Clara, but excluding Gilroy and Morgan Hill, contribute 12.8 percent of the deposited nitrogen. The remaining 41.2 percent was attributed to sources in Gilroy and Morgan Hill, as well as other Bay Area counties (San Mateo, San Francisco, Alameda, Contra Costa) plus sources as distant as Nevada.

In 2013, the U.S. Fish & Wildlife Service (USFWS) recognized that the analysis in SCVHCP Appendix E constitutes "the best scientific information available at this time for the Action Area [i.e., the Santa Clara Valley Habitat Conservation Plan Area, which does not include the proposed Project site] . . . ."[3] In doing so, however, the USFWS recognized that "there are inherent limitations and uncertainties associated with the simulations used in the analysis. For example, the representation of physical and chemical processes in the models may include unknown errors or shortcomings. . . . The location, amount, and type of N emissions in the Action Area in the future are difficult to predict because of the complex combination of

---

2 Santa Clara Valley Habitat Agency. 2012. Final Santa Clara Valley Habitat Plan. Appendix E. available at http://scv-habitatagency.org/178/Final-Habitat-Plan.

3 USFWS. 2013. Biological and Conference Opinion on Issuance of a Section 10(a)(1)(B) Permit for the Santa Clara Valley Habitat Conservation Plan/Natural Community Conservation Plan. April. Available: http://scv-habitatagency.org/DocumentCenter/Home/View/343.

additional point and mobile emission sources that will result from Plan Covered Activities. An important example is the uncertainty of additional automobile emissions, which are anticipated to be the primary source of new N-deposition in the Action Area. Although vehicular emissions may decrease over time, as technology and emissions standards improve, the amount of this reduction is difficult to estimate because technological improvements are uncertain and may have unexpected effects."[4]

The proposed project is well outside known and suspect Bay checkerspot butterfly habitat, surrounded by other commercial, urban and otherwise developed properties. The project accordingly will not result in direct impacts on the species or its habitat. Moreover, given the distance of the proposed project from the serpentine soil habitats targeted for conservation and the insignificant contribution that this one project would make to the hundreds of thousands of vehicle trips (existing, planned, and future) in the more immediate vicinity of the habitat that may contribute to changes in the chemical makeup of the soil, the proposed project will not, standing alone, have a significant impact Bay checkerspot butterfly habitat.

While the theory that cumulative effects of nitrogen deposition tied to vehicles, power plants and other sources of emissions in the SCVHCP area (which includes the impacted serpentine habitat) has been documented, the indirect effects of a project, like this one, located more than nine miles from the nearest Bay checkerspot butterfly habitat would be difficult to accurately assess, in light of the distance between the project and the area of potential effects, the amount of other sources of nitrogen in the intervening area, and the recognized uncertainty regarding the makeup of future automobile emissions and the source of these mobile emissions. While some of the trips generated by the project will begin closer to the serpentine habitat, others will originate from points much further from the Action Area. With other intervening sources of harm, including countless other sources of nitrogen, the project cannot be identified as the proximate cause of direct or indirect impacts on the Bay checkerspot butterfly.

The project site is developed and located in a densely developed area. As the project site is bordered on all sides by development, it does not provide habitat connectivity between undeveloped lands and is not part of a regional wildlife movement corridor. Therefore, there would be no impact to wildlife movement from the implementation of the proposed project.

**Mitigation Measures**: No mitigation measures are required.

---

4 *Id*. at 80.

**Impact BIO-3: The proposed project would not conflict with applicable policies protecting biological resources. (*Less than Significant*)**

According to the Tree Report prepared by HortScience, Inc., dated March 2015 (see **Appendix 4.10**), there are 26 existing trees representing 10 species of non-native ornamental trees on the project site.

There are three policies in the City of Santa Clara General Plan related to trees. The City of Santa Clara General Plan Policy 5.10.1-P3 requires "preservation of all City-designated heritage trees listed in the Heritage Tree Appendix 8.10 of the General Plan." In addition, General Plan Policy 5.10-1-P4 provides the criteria for the identification of trees that the City seeks to protect. This policy states "Protect all healthy cedars, redwoods, oaks, olives, bay laurel, and pepper trees of any size, and all other trees over 36 inches in circumference measured from 48 inches above-grade on private and public property as well as in the public right-of-way." Finally, General Plan Policy 5.3.1-P10 requires new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the project.

Of the 26 existing trees on the project site, none is listed as a Heritage Tree in the General Plan, and none of the trees are cedars, redwoods, oaks, olives, bay laurel and pepper trees, the species specifically identified for protection in General Plan Policy 5.10-1-P4. Of the 26 trees, 11 trees on the project site meet both the trunk circumference and health criteria in General Plan Policy 5.10-1-P4 (HortScience 2015). Project construction would require the removal of all 26 trees on the site.

The applicant would be required to comply with General Plan Policy 5.3.1-P10, which requires that new development "provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the project." In addition, the City's Design Guidelines require that mature trees removed or proposed for removal be replaced on-site, at a minimum, with a 24- or 36-inch box. Other standards may apply in cases where particular planting requirements must be met. This includes providing specimen size material for protected trees and installing appropriately sized trees, such as less than or equal to 15 gallons where there are physical limitations.

In order to compensate for the protected trees removed at a 2:1 ratio according to General Plan Policy 5.3.1-P10, 22 replacement trees would be required. The proposed landscaping plan calls for planting 256 trees, which would exceed the requirements of both the General Plan policy and the Design Guidelines. The proposed nursery stock size would be 24- and 36-inch boxes. The proposed landscaping plan for the site depicts three general areas of tree planting: (1) street trees along The Alameda, Benton Street, and El Camino Real; (2) the outdoor area at the corner of Benton Street and El Camino Real; and (3) the courtyards. There would be a time lag between when the existing trees are removed and the newly

planted trees reach sizes and heights similar to the existing trees. It may take 10 to 20 years before the new trees are of a similar fullness and height as the existing trees. However, there would be a substantially greater number of trees and shrubs planted as part of the proposed project compared to the existing landscaping, which would compensate for the smaller size of the new trees before they achieve full maturity. Furthermore, the landscaping plan for the proposed project includes more tree species that are evergreen and would provide screening all year round.

As the proposed project would exceed the requirement contained in the City's General Plan, it would not conflict with applicable policies protecting biological resources. The loss of habitat for common bird species and urban wildlife provided by the site trees would be compensated by the replacement trees and landscaping that would be provided as part of the proposed project. The impact would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

**Impact BIO-4:** **The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan. (*No Impact*)**

The project site is not located within the portion of Santa Clara County that is covered by the Santa Clara Valley Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) (Santa Clara Valley HCP/NCCP website). The City is not a member jurisdiction of the HCP/NCCP, and the HCP/NCCP does not impose any obligations on non-members. There are no other HCPs or NCCPs applicable to the project area. No conflicts with an HCP/NCCP, or other conservation plan would occur.

**Mitigation Measures**: No mitigation measures are required.

---

## 4.10.5 GEOLOGY AND SOILS

In accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, the impacts of the proposed project related to geology and soils would be considered significant if it would:

- expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent alquist-priolo earthquake fault zoning map issued by the state geologist for the area, or based on other substantial evidence of a known fault (refer to California Geographical Society [CGS] special publication 42);

  - Strong seismic ground-shaking;
  - Seismic-related ground failure, including liquefaction; or
  - Landslides.

- result in substantial soil erosion or the loss of topsoil;
- be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- be located on expansive soil, as defined in Table 18-1-b of the California Building Code, creating substantial risks to life or property; or
- have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

**Impact GEO-1:** **The proposed project would not expose people or structures to substantial adverse effects related to fault rupture, seismic ground shaking, and/or seismic-related ground failure. (*Less than Significant)***

Langan Treadwell Rollo (LTR) prepared a preliminary geotechnical investigation report for the project site dated February 3, 2015 (see **Appendix 4.10**). The project site is located within the Santa Clara Valley, which is a broad alluvial plain between the Santa Cruz Mountains to the southwest and west, and the Diablo Range to the northeast. The San Andreas Fault system exists within the Santa Cruz Mountains and the Hayward and Calaveras Fault systems exist within the Diablo Range. The closest fault to the project site is the Monte Vista-Shannon fault, which is located approximately 5.8 miles from the project site (Langan Treadwell Rollo 2015).

The project site is not located in an Alquist-Priolo Earthquake Fault Zone (regulatory zones around active faults where the construction of buildings used for human occupancy is not allowed), and no known active or potentially active faults exist on site. Therefore, the risk of fault rupture on the site from a known active fault is low (LTR 2015). According to the City's General Plan, although the risk of surface fault rupture is considered low, the City could experience ground shaking in the event of an earthquake. In addition, the project site is located within a state-designated Liquefaction Hazard Zone as well as a Santa Clara County Liquefaction Hazard Zone. Furthermore, the site could be subject to differential settlement in the event of a seismic event (LTR 2015). However, the effects of seismic ground shaking, liquefaction, and differential settlement would be reduced by adhering to 2013 California Building Code (CBC) and seismic design parameters. The potential for seismically induced landslides to affect the project site is considered very low since the project site is situated on flat land, which is typically not

subject to landslides. Based on the above, the proposed project would have a less than significant impact with regard to seismic hazards. Furthermore, consistent with standard practice, once detailed site development plans are available, a design-level geotechnical investigation will be completed which will provide specific recommendations for foundations, earthwork, etc.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact GEO-2:** **The proposed project would not result in substantial soil erosion nor be located on unstable soil. Finally, the proposed project would not require the use of septic tanks or alternative wastewater disposal systems. (*Less than Significant)***

The project site is characterized by relatively flat topography with ground surface elevations ranging from approximately elevations of 67 to 72 feet. Construction of the proposed project would require grading and other earthmoving activities, which could subject exposed soils to erosion by water or wind. As the proposed project would disturb more than 1 acre, coverage under the state's National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activity would be required prior to construction and the construction contractor would be required to file a notice of intent (NOI) with the State Water Resources Control Board and develop and implement a site-specific Storm Water Pollution Prevention Plan (SWPPP). In compliance with the NPDES requirements, Best Management Practices (BMPs) to control on-site erosion and off-site sedimentation, and to keep construction pollutants from coming into contact with storm water would be incorporated into the SWPPP and implemented during site grading and construction. These measures would include but are not limited to control of surface flows over exposed soils and use of sediment traps such as hay bales. Upon completion of construction, erosion potential would be low because all disturbed areas would be covered by buildings, pavement, and landscaping. With these measures in place, impacts related to accelerated erosion and sedimentation are expected to be less than significant.

The geotechnical investigation found that the site is underlain by alluvial soils with an upper clay layer 20 to 30 feet thick in most locations. According to the report, the plasticity index of the soils was found to be 18, which indicates a moderate potential for expansion (LTR 2015). However, the project is required to adhere to the 2013 CBC, which includes the requirements related to construction on expansive soils. Therefore, the effect related to expansive soils would be less than significant.

Construction of the below grade parking level would require excavation of 10 to 12 feet below ground surface. Construction of the proposed project may require shallow excavation for foundations. Excavated

(cut) slopes could be unstable and subject to failure over the short term if they are improperly designed or implemented. However, as identified above, development would be designed and constructed in accordance with the current CBC, which includes provisions that specifically address good grading practices and cut and fill slope stability. Impacts related to unstable cut or fill slopes are therefore expected to be less than significant.

The project site is currently urbanized and sewers are available for the disposal of wastewater. Therefore, implementation of the proposed project would not require septic tanks or alternative wastewater treatment facilities. There would be no impact.

**Mitigation Measures**: No mitigation measures are required.

---

## 4.10.6 HYDROLOGY AND WATER QUALITY

In accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, the impacts of the proposed project related to hydrology and water quality would be considered significant if it would:

- violate any water quality standards or waste discharge requirements;
- substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on-site or off-site;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site;
- create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff;
- otherwise substantially degrade water quality;
- place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- place within a 100-year flood hazard area structures that would impede or redirect flood flows; or

- expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam or inundation by seiche, tsunami, or mudflow.

**Impact HYD-1: The proposed project could result in the discharge of storm water that would violate any water quality standards or otherwise substantially degrade water quality. (*Potentially Significant; Less than Significant*)**

The greatest potential sources of surface water pollutants associated with the proposed project would be construction-phase erosion of the project site and urban runoff pollutants generated from impervious surfaces on-site following the completion of construction. Potential for water quality impacts during project construction and occupancy are evaluated below.

### *Construction Phase Runoff*

Project construction would involve the disturbance of the 5.7-acre project site. Proposed construction and grading activities would include demolition of existing structures, removal of asphalt, site grading, and the operation of heavy equipment. Although the project site is essentially flat and the potential for soil erosion is considered to be low, peak storm water runoff could result in short-term sheet erosion within areas of exposed or stockpiled soils. Furthermore, the compaction of soils by heavy equipment may reduce the infiltration capacity of soils and increase runoff and erosion potential. Given the above, pollutants such as soil, sediments, and other substances associated with construction activities (e.g., oil, gasoline, grease, and surface litter) could enter the local storm drain system.

As discussed above, projects disturbing areas of 1 acre or more during construction are required to comply with the state's NPDES General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit). The project construction contractor would be required to file a notice of intent to obtain coverage under the Construction General Permit. This permit requires that a SWPPP be prepared that would include appropriate erosion-control measures. In addition, the SWPPP would require that if any spills of materials known to be water pollutants or hazardous materials occur, the proper agencies would be contacted immediately (if necessary) and appropriate cleanup of the spill would take place as soon as possible. Erosion control measures that would be implemented during site grading and construction would include the use of straw hay bales, straw bale inlet filters, filter barriers, and silt fences. The proposed project would be also required to comply with the City Storm Drains and Discharges ordinance and incorporate the BMPs outlined in the California Stormwater Quality Association (CASQA) *Stormwater Best Management Practices for Construction*. The SWPPP would be submitted to the City of Santa Clara Building Inspection Division for approval prior to issuance of a grading permit. Adherence to the requirements described above would ensure that the

quality of runoff that is discharged from the project site would not violate any water quality standards or otherwise substantially degrade surface water quality.

Construction of the below grade parking level would require deep excavation below ground surface and groundwater could, therefore, be encountered during construction activities and would need to be removed from excavated areas and disposed of offsite. The water extracted via dewatering operations could contain contaminants that could affect surface water quality in the event that the water is discharges into a storm drain. However, compliance with City de-watering requirements and implementation of **Mitigation Measure HAZ-2b** would ensure that contaminated groundwater is not discharged to surface waters.

Because the project will be required by law to comply with NPDES requirements that are specifically focused on the quality of storm water runoff from construction sites, construction of the proposed project would have a less than significant short-term impact on surface water quality.

### *Operational Phase Runoff*

The San Francisco Bay Regional Water Quality Control Board's Municipal Regional Permit (MRP) has certain requirements for development projects that create, add, or replace 10,000 square feet or more of building space. These projects must: (1) include storm water treatment measures; (2) ensure that the treatment measures be designed to meet hydraulic sizing design criteria as required in Provision C.3 of the MRP; and (3) ensure that storm water treatment measures are properly installed, operated, and maintained. In November 2011, the Regional Water Quality Control Board (RWQCB) amended the MRP to allow Low Impact Developments (LID) treatment reduction credits for three categories of "Smart Growth" development, specifically urban infill, high density, and transit oriented development projects, called "Special Projects." Special projects are allowed to use specific types of non-LID treatment, which include high flow-rate media filters and high flow rate tree well filters. The three categories of Special Projects are: Category A - Small Infill Projects (less than or equal to 0.5 acre of impervious surface); Category B - High Density Projects (less than or equal to 2 acres of impervious surfaces); and Category C - Transit Oriented Development which is defined to be (1) a non-auto related land use project; (2) if a commercial or mixed use project to achieve a floor area ratio (FAR) of at least 2:1; and (3) if a residential project, achieve a density of at least 25 dwelling units/acre.

According to hydrology study prepared for the proposed project by Civil Engineering Associated dated June 10, 2015 (see **Appendix 4.10**), the proposed project qualifies as a "Special Status Project - Category C: Transit Oriented Development" as identified in Appendix J of the Santa Clara County Urban Runoff Pollution Prevention Program (SCVURPPP). In accordance with the program, the project is eligible for

credits to reduce the amount of runoff that is treated by LID methods. The proposed development qualifies to treat up to 80 percent of the storm runoff by non-LID methods, such as SCVURPPP-compliant media filters; however, the project is only proposing to treat 70 percent of the storm runoff by non-LID methods. The project would treat the remaining 30 percent of storm runoff with SCVURPPP compliant LID methods, specifically LID based bioretention (CEA 2015).

As described in **Chapter 3.0**, **Project Description**, the proposed project would treat stormwater through a combination of bioretention areas and media filter vault system. A minimum of 30 percent of the post-development storm water volume would be treated through bioretention. Any flow-through in-ground planters used as bioretention would be designed in accordance with Chapter 6.2 of the C.3 Stormwater Handbook, updated April 2012.

The remainder of the post-development storm water volume would be treated through subgrade media filter vaults located at or near discharge points to the existing public storm drain system. These vaults will contain media filter cartridges designed in accordance with Chapter 6.7 of the C.3 Stormwater Handbook, and taken from the Bay Area Stormwater Management Agencies Association (BASMAA) list of approved media filter devices.

Bioretention areas and media filter vaults would remove pollutants from on-site storm water runoff prior to discharge to the City's storm drain system in compliance with applicable City of Santa Clara guidelines and standards as well as the San Francisco Bay RWQCB's MRP requirements. Therefore, the quality of runoff that is discharged from the project site would not violate any water quality standards or otherwise degrade surface water quality. The proposed project would result in a less than significant long-term impact on surface water quality during operation.

Urban runoff is not subject to waste discharge requirements. No wastewater would be discharged directly from the project site into receiving waters. The wastewater generated on the project site following project occupancy would be collected and conveyed to the San Jose-Santa Clara Regional Wastewater Facility (RWF). for treatment. The wastewater flows from the project site would be similar to flows generated by mixed use projects and would not have any specific characteristics or qualities that would not be treatable at the RWF. In addition, as noted under **Impact UTL-3**, the additional wastewater discharged to the WPCP by the proposed project would not exceed the capacity of the treatment plant. Given this, the proposed project would not result in wastewater flows that would cause the RWF to exceed the wastewater treatment requirements imposed on the facility by the San Francisco Bay Regional Water Quality Control Board. The impact would be less than significant.

**Mitigation Measures**:

**HYDRO-2** Implement **Mitigation Measure HAZ-2b.**

**Significance after Mitigation**: Less than significant

---

**Impact HYDRO-2: The proposed project would not substantially deplete groundwater supplies, interfere substantially with groundwater recharge, or affect groundwater quality. (*Less than Significant*)**

Implementation of the proposed project would increase the amount of potable water used on the project site. When accounting for historic water use at the site and projected uses of the project site, the potable water demand on the project site would result in a net increase of approximately 58.4 acre-feet per year (afy) with the proposed project. As discussed in **Section 4.10, Utilities and Service Systems, including Energy**, the City has prepared a water supply assessment (WSA) for the proposed project which shows that the increase in demand due to the proposed project, in conjunction with the projected demand by other development in the City, would be adequately served by the available supply.

Groundwater is one of the City of Santa Clara's main sources of water and the City pumps groundwater from the Santa Clara subbasin. As the water demand associated with the proposed planned projects is well within the demand projections included in the CSC 2010 UWMP, and would not exceed previous estimates, the City is expected to withdraw groundwater at rates indicated in its CSC 2010 UWMP. Groundwater is not expected to be pumped at a higher rate to serve the proposed project and other planned growth. Furthermore, the Santa Clara Valley Water District (SCVWD) actively manages the groundwater subbasin. The SCVWD monitors the quality, supply, and management of the local groundwater basin as summarized in Appendix E, District Groundwater Management Plan 2001 of the 2010 SCVWD UWMP. This plan protects groundwater quality, monitors the groundwater extraction, and promotes groundwater recharge to ensure that groundwater does not exceed the annual 200,000 acre-feet withdrawal limit for the basin. The allowable withdrawal or safe yield of groundwater by the City of Santa Clara is determined based on several factors including: withdrawals by other water agencies, quantity of water recharged and the carryover storage from the previous year. The SCVWD currently uses projected supply, carryover capacity, and anticipated demand to predict potential water shortages (CSC 2011a).

According to the SCVWD, the subbasin has a safe yield of approximately 200,000 afy. The demand for groundwater in 2035 is projected to be 167,290 afy, including anticipated growth in the region such as the

proposed project, which is 16 percent less than the safe yield of the subbasin (SCVWD 2011). As a result, the proposed project would not substantially deplete groundwater supplies. It is noted that in compliance with the Sustainable Groundwater Management Act of 2014, SCVWD is planning to launch the process in 2016 of becoming a Groundwater Sustainability Agency (GSA) and plans to update its Groundwater Management Plan in 2016.

Natural recharge in the basin occurs principally as infiltration from streambeds that flow from the upland areas within the drainage basin and from direct percolation of precipitation that falls on the basin floor (DWR 2003). In addition, the recharge area for the potable water aquifer used by the City of Santa Clara is a very small portion of the southwest corner of the City. The project site is not located within the 26 acres used for recharge (CSC 2011b). There are approximately 5.0 acres of impervious surfaces and 0.7 acres of pervious surfaces currently on the project site. After development of the proposed project, impervious surfaces on the project site would total about 4.8 acres, which represents a four percent decrease below current conditions (CEA 2015). The proposed project will therefore not interfere with, and may instead improve, groundwater recharge. The impact would be less than significant.

Groundwater quality impacts generally occur when leaks or spills of hazardous materials occur at industrial facilities or other land uses that store and use hazardous materials. The proposed project includes residential land uses and some commercial uses that would not use or store the types or volumes of hazardous materials that would pose the risk of groundwater contamination. Therefore, the impact to groundwater quality during operation would be less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact HYDRO-3:** **The proposed project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion, siltation, or flooding on-site or off-site. In addition, the project would not result in runoff that would exceed the capacity of existing or planned stormwater drainage systems. (*Less than Significant*)**

The project site is relatively flat, although there are small variations in ground elevation. The proposed project would not materially change the topography of the site. Site drainage would be designed and constructed in accordance with the 2013 CBC, and as discussed above, during operation, all site drainage would be routed to the City's storm drain system, which also serves the surrounding area. This system is designed to accommodate existing and future flows from the project site and the surrounding area. As a result, the proposed project would not substantially alter existing natural drainage patterns.

Furthermore, as discussed above, the proposed project would result in a small reduction in impervious surfaces on the project site. Due to the small reduction in impervious surfaces, the post-development site runoff would be slightly reduced. In addition, as noted above, a minimum of 30 percent of the post-development storm water volume would be treated through bioretention, such as flow-through in-ground planters. This LID measure would reduce the volume of stormwater runoff discharged from the site. Therefore, runoff from the project site would not result in significant erosion or siltation on- or off-site. Nor would it result in flooding or produce runoff that exceeds the capacity of existing or planned stormwater drainage systems. This impact is considered less than significant.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact HYDRO-4: The proposed project would not place housing or structures within a 100-year flood hazard area. (*No Impact*)**

The project site is not located within a 100-year flood zone. The project site is located in Flood Zone X, which is an area outside the 500-year floodplain (FEMA 2009). As a result, implementation of the proposed project would not place housing or structures within a flood hazard area. There would be no impact.

**Mitigation Measures**: No mitigation measures are required.

---

**Impact HYDRO-5: The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam or inundation by seiche, tsunami, or mudflow. (*No Impact*)**

The project site is not located within the inundation area for Lexington Dam and/or Anderson Dam (CSC 2011b). The project site is located well inland from the San Francisco Bay and no bodies of water are located near the site. As a result, the project site is not at risk of seiche or tsunami inundation. Because of the location of the project site in flat topography at a substantial distance from the Santa Cruz Mountains range front, there is no substantial risk of debris flow or mudflow. No impact would occur.

**Mitigation Measures**: No mitigation measures are required.

---

## 4.10.7 MINERAL RESOURCES

In accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, the impacts of the proposed project related to mineral resources would be considered significant if it would:

- result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the state; or
- result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

**Impact MR-1:** **The proposed project would not result in the loss of availability of a known mineral resource or in the loss of availability of a locally important mineral resource recovery site. (*No Impact*)**

The California Geological Survey has mapped aggregate availability in the state, and no aggregate production areas have been identified in the City of Santa Clara (CSC 2011b). Additionally, there are no known mineral resources on the project site. Extensive excavation of topsoil has occurred on the site in the past due to construction of existing development, and it is unlikely that valuable mineral resources exist. Implementation of the proposed project would not result in the loss of availability of known mineral resources that would be of value to the region and the residents of the state. Therefore, the implementation of the proposed project would have no impact on mineral resources.

**Mitigation Measures**: No mitigation measures are required.

---

## 4.10.8 POPULATION AND HOUSING

In accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, the impacts of the proposed project related to population and housing would be considered significant if it would:

- induce substantial population growth in an area, either directly or indirectly;
- displace substantial numbers of existing housing necessitating the construction or replacement housing elsewhere; and/or
- displace substantial numbers of people necessitating the construction of replacement housing elsewhere.

**Impact PH-1:** **The proposed project would not induce substantial population growth in the area, either directly or indirectly, nor would it displace substantial numbers of**

**existing housing or people necessitating the construction of replacement housing elsewhere. (*Less than Significant*)**

The most recent Department of Finance (DOF) estimate for the average household size in the City of Santa Clara is 2.69 persons per household (DOF 2015). This household size has been used in this Draft EIR to estimate the total residential population associated with the proposed project. Thus, the proposed 385 new residential units have the potential to increase the population of the City of Santa Clara by approximately 1,036 people. The DOF estimates the total population for the City of Santa Clara in 2014 was 120,973 people (DOF 2015), and the proposed project would thus increase the City's population by approximately 0.86 percent. The City's General Plan was developed to meet the needs of anticipated future economic and population growth. The proposed mixed-use project would be accounted for and align with the goals of the General Plan. Therefore, impact to population growth would be less than significant.

A city's jobs and housing balance is reflected in the ratio of jobs to the number of households within Santa Clara. This ratio shows whether a jurisdiction has a surplus or deficit of jobs relative to its population and housing supply. A surplus is defined as greater than 1.0 job for every household, whereas a deficit is defined as less than 1.0 job for every household. Evaluation of data from the Association of Bay Area Governments (ABAG) shows that the City of Santa Clara has an estimated 1.19 jobs for every household in 2010. Santa Clara's jobs-to-housing ratio indicates that the City is "job rich," meaning there are more jobs than the number of households (CSC 2014). The addition of 385 residential units to the City of Santa Clara will help improve the City's jobs/housing balance and the impact due to the increase in population will be less than significant.

The existing project site contains a mix of single- and multi-family residential units totaling 10 units. While the proposed project would remove all the residential units on the project site, it would also result in a net increase in 375 units on the site. For this reason, the proposed project would not displace substantial numbers of existing housing necessitating the construction or replacement housing elsewhere, and this impact is less than significant.

Based on the most recent DOF estimate of average household size in the City, the existing residential units on the site house approximately 24 people, which is not considered substantial. For this reason, the proposed project would not displace substantial numbers of people necessitating the construction of replacement housing elsewhere, and this impact is considered less than significant.

**Mitigation Measures**: No mitigation measures are required.

## 4.10.9 REFERENCES

California Department of Conservation. 2014. *Santa Clara County Important Farmland 2012*. Prepared by the Division of Land Resource Protection. Farmland Mitigation and Monitoring Program (FMMP).

California Department of Conservation. 2012. *Santa Clara County Williamson Act FY 2013/2014.* Prepared by the Division of Land Resource Protection. Williamson Act Program (WAP).

California Department of Finance (DOF). 2015. *Table 2: E-5 City/County Population and Housing Estimates, 1/1/2015*. May 1.

California Department of Transportation. 2015. *California Scenic Highway Program*. Accessed March 23, 2015. http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm.

City of Santa Clara (CSC). 2011a. *2010 Urban Water Management Plan*. May.

CSC. 2011b. *Integrated Final EIR 2010–2035 General Plan for City of Santa Clara*. January.

CSC. 2014. *City of Santa Clara 2010-2035 General Plan*. Adopted November 16, 2010. Amended December 2014.

Civil Engineering Associates (CEA). 2015. *Mission Town Center EIR Hydrology Study*. June 10.

Federal Emergency Management Agency (FEMA). 2009. *Flood Insurance Rate Map No. 06085C0227H for Santa Clara County, California*. May 18.

HortScience, Inc. 2015. *Tree Report, Mission Town Center*. March

Langan Treadwell Rollo (LTR). 2015. *Preliminary Geotechnical Investigation, Mission Town Center Apartment Homes, Santa Clara, California*. February 3.

Santa Clara Valley Water District (SCVWD). 2011. *2010 Urban Water Management Plan*. July.

WRA Environmental Consultants. 2015. *Biological Resources Assessment, Mission Town Center Redevelopment Project, Santa Clara, Santa Clara County, California*. May.

# 5.0 ALTERNATIVES

## 5.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) describe a range of reasonable alternatives to the proposed project or to the location of the project that could feasibly avoid or lessen any significant impacts while substantially attaining the basic objectives of the proposed project. An EIR should also evaluate the comparative merits of the alternatives. This section sets forth potential alternatives to the proposed project and evaluates them, as required by CEQA.

Key provisions of the *State CEQA Guidelines*[1] pertaining to the alternatives analysis are summarized below:

- The discussion of alternatives shall focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.
- The range of alternatives required in an EIR is governed by a "rule of reason." Therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.
- The No Project alternative shall be evaluated along with its impacts. The No Project analysis shall discuss the existing conditions at the time the notice of preparation is published. Additionally, the analysis shall discuss 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.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives should be selected and discussed in a manner intended to foster meaningful public participation and informed decision-making. Among the factors that may be taken into account when addressing the feasibility of alternatives are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations,

---

1 California Code of Regulations, Title 14, Division 6, Chapter 3, *California Environmental Quality Act Guidelines*, Section 15126.6.

jurisdictional boundaries, and whether the project proponent could reasonably acquire, control, or otherwise have access to an alternative site.[2]

## 5.2 PROJECT OBJECTIVES

The City of Santa Clara has developed the following primary objectives to satisfy the requirements of *CEQA Statutes and Guidelines* Section 15124 (b).

- Provide development consistent with the City's long-term development goals.
- Create a mixed-use development of a scale and character that complements and is supportive of surrounding uses.
- Create a mixed-use development that maximizes density with accessibility to alternate transportation modes, and integrates pedestrian, bicycle, transit, open space and outdoor uses to encourage active centers.
- Implement smart growth principles by redeveloping underutilized properties with higher density housing projects along established transit corridors.

The applicant's key objectives for the proposed project are to:

- Develop a well-designed, economically feasible residential community that consists of a variety of residential products and unit types,
- Develop a community that incorporates smart-growth elements such as redevelopment of underutilized properties and implementation of higher-density development along established transit corridors.
- Create a sustainable infill mixed use, residential project that complements adjacent residential neighborhoods to the west and south and nearby Santa Clara University;
- Attain a project designed to a minimum LEED Gold or greater equivalent standard; and
- Improve the jobs/housing balance within the City.

## 5.3 IMPACTS OF THE PROPOSED PROJECT

To develop project alternatives, the City, as Lead Agency, considered the project objectives and reviewed the significant impacts of the proposed project, identified those impacts that could be substantially avoided or reduced through an alternative, and determined the appropriate range of alternatives to be

---

2 California Code of Regulations, Title 14, Division 6, Chapter 3, *California Environmental Quality Act Guidelines*, Section 15126.6(f)(1).

analyzed. **Section 4.0, Environmental Impact Analysis**, of this Draft EIR evaluates the potential for the proposed project to result in significant impacts to the following resource areas: air quality; cultural resources; greenhouse gas emissions; hazards and hazardous materials; land use and planning; noise; public services and recreation; transportation and traffic; utilities and service systems, including energy; and all other environmental topics which include aesthetics, agricultural resources, biological resources, geology and soils, hydrology and water quality, mineral resources, and population and housing. The analysis in **Section 4.0** concludes that implementation of the proposed project would result in potentially significant and significant impacts in eight resource areas: air quality; biological resources; cultural resources; hazards and hazardous materials; noise; public services; and transportation and traffic. With some exceptions, all of the significant and potentially significant impacts of the proposed project would be reduced to a less than significant level with the incorporation of mitigation measures. The exceptions would be a project-level significant and unavoidable transportation and traffic impact, and one significant cumulative impact related to traffic. In addition, as noted in **Section 4.2, Cultural Resources**, the two existing homes, 3370 The Alameda and 3410 The Alameda, appear to meet the City of Santa Clara's Criteria for Local Significance, and the home at 3370 The Alameda, also appears to be individually eligible for the California Register. Moving the two buildings to a different location appropriate to their historic character would not represent a substantial adverse change or compromise their character defining features. As the houses are stud-wall, wood-frame structures, moving the buildings is likely to be feasible. Therefore, if the two buildings were relocated to an appropriate location, project impacts would be reduced to a less than significant level and further mitigation would not be required. In the event that the two buildings cannot be relocated and must be demolished to construct the project, the proposed project would result in an additional project-level impact and an additional cumulative significant and unavoidable impact on historical resources. A summary discussion of project impacts under each resource area analyzed in the Draft EIR is presented below.

**Table 5.0-1, Summary Comparison of Project Alternatives**, presented at the end of this section, lists all potentially significant and significant impacts of the proposed project. Alternatives that would meet most of the project objectives and would avoid or reduce the project's significant impacts are identified and analyzed in detail below.

### 5.3.2 Air Quality

**Section 4.1, Air Quality,** of this Draft EIR identified potentially significant impacts associated with construction emissions of criteria pollutants (**Impact AIR-1**), exposure of existing sensitive receptors to construction emissions of fugitive dust and toxic air contaminants (**Impact AIR-4**), and exposure of project site residents to toxic air contaminant emissions from railroad operations (**Impact AIR-5**). All of these impacts would be reduced to a less than significant level with mitigation. Less than significant

impacts were identified associated with the proposed project's operational emissions of criteria pollutants, carbon monoxide emissions, and odors. No significant and unavoidable air quality impacts were identified.

### 5.3.4 Cultural Resources

The analysis in **Section 4.2, Cultural Resources**, of this Draft EIR shows that the proposed project could significantly affect archaeological resources and disturb unknown human remains **(Impact CUL-2)**. However, the impact would be reduced to a less than significant level with mitigation. The project would have a significant impact on two historic architectural resources **(Impact CUL-1)**. If the affected structures are successfully relocated per **Mitigation Measure CUL-1a**, the impact would be reduced to a less than significant level. However, in the event that the affected structures cannot be relocated but instead are photo-documented and recorded (per **Mitigation Measures CUL-1b** through -**1d**) and then demolished to construct the proposed project, the impact would not be reduced to a less than significant level, and **Impact CUL-1** would remain significant and unavoidable. Under this scenario, the project would also result in a significant and unavoidable cumulative impact on historic resources (**Cumulative Impact CUL-1**).

### 5.3.5 Greenhouse Gas Emissions

The analysis in **Section 4.3, Greenhouse Gas Emissions,** of this Draft EIR shows that the proposed project would not generate greenhouse gas (GHG) emissions that may have a significant impact on the environment and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. No significant and unavoidable impacts related to greenhouse gas emissions were identified.

### 5.3.6 Hazards and Hazardous Materials

**Section 4.4, Hazards and Hazardous Materials,** of this Draft EIR identified a potentially significant impact (**Impact HAZ-2**) related to the exposure of construction workers and on-site residential and non-residential populations to existing on-site soil and groundwater contamination. This impact would be reduced to a less than significant level with mitigation. The project site would be located on a site with residual contamination (**Impact HAZ-5**). Mitigation measures would be implemented to specifically address the existing contamination sources on this property. The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials and would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. There would be no

impact from safety hazard due to wildfires or proximity to an airport. No significant and unavoidable impacts related to hazards and hazardous materials were identified.

### 5.3.8 Land Use and Planning

The analysis in **Section 4.5, Land Use and Planning,** of this Draft EIR shows that the proposed project would not physically divide an established community nor would it conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. The proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plans. No significant and unavoidable impacts related to land use and planning were identified.

### 5.3.9 Noise

**Section 4.6, Noise**, of this Draft EIR identified potentially significant noise impacts associated with interior and exterior primary use spaces (**Impact NOISE-1**), stationary equipment noise (**Impact NOISE-4**), construction noise (**Impact NOISE-6**), and construction vibration (**Impact NOISE-7**). Mitigation measures would reduce these impacts to a less than significant level. All other impacts related to noise would be less than significant. No significant unavoidable impacts related to noise were identified.

### 5.3.10 Public Services

**Section 4.7, Public Services**, of this Draft EIR identified a potentially significant impact related to the increased demand and accelerated physical deterioration of park facilities as a result of project implementation (**Impact PUB-5**). This potentially significant impact would be reduced to a less than significant level with mitigation. Impacts related to fire, police, school, and library services were determined to be less than significant. No significant and unavoidable impacts were identified for public services.

### 5.3.11 Transportation and Traffic

**Section 4.8, Transportation and Traffic,** of this Draft EIR identified significant impacts related to the proposed project's contribution to traffic at one study intersection which would operate at unacceptable levels of service under Background (2020) conditions (**Impact TRANS-2**) and cumulative conditions (**Cumulative Impact TRANS-1**). Proposed mitigation would not reduce these impacts to a less than significant level, and these impacts would remain significant and unavoidable. All other traffic-related impacts would be less than significant.

### 5.3.12 Utilities and Service Systems, Including Energy

**Section 4.9, Utilities and Service Systems, including Energy**, of this Draft EIR identified less than significant impacts related to utilities and energy. No significant and unavoidable impacts were identified.

### 5.3.13 Other Resource Topics

**Section 4.10, Other Resource Topics**, of this Draft EIR identified no impacts or less than significant impacts related to agricultural resources, biological resources, geology and soils, hydrology and water quality, mineral resources, and population and housing. A potentially significant biological resource impact related to nesting birds (**Impact BIO-1**), and a potentially significant impact related to hydrology (**Impact HYD-1**) would occur. However, the proposed mitigation would reduce both impacts to a less than significant level. No significant and unavoidable impacts were identified for any of these resources.

## 5.4 ALTERNATIVES EVALUATED IN DETAIL

An EIR must briefly describe the rationale for the selection and rejection of alternatives. The lead agency may make an initial determination as to which alternatives are feasible, and therefore merit in-depth evaluation, and which are infeasible.

CEQA does not require analysis of an infeasible off-site alternative (CEQA Guidelines Section 15126.6). The key question is whether an off-site alternative is available that would feasibly attain most of the basic objectives of the proposed project. Here, the primary objective of the City and the project applicant is to develop residential use in conjunction with appropriate local serving retail uses, along a transit corridor. The Mission Town Center project would be located within the Santa Clara Station Area just 500 feet northwest of the Santa Clara Transit Center. The proposed project would create retail and high density residential in an area where residents would have easy access to public modes of transportation. The retail portion of the proposed project would create a pedestrian friendly shopping street. Therefore, no off-site alternative project location would meet the key project objective of creating a cohesive mixed-use development that neighbors a transit corridor. Thus, no off-site alternative was evaluated in the Draft EIR.

The following alternatives were found to be feasible and are evaluated in detail. Alternatives considered for detailed evaluation in this Draft EIR include potential alternate projects that meet most of the project's objectives while eliminating or reducing significant environmental impacts identified in **Section 4.0**. Alternatives considered in this Draft EIR for detailed evaluation include:

- No Project/No Redevelopment
- No Project/Planned Development
- Reduced Residential Density

## 5.5 ALTERNATIVE IMPACT ANALYSIS

### 5.5.1 ALTERNATIVE 1: NO PROJECT/NO REDEVELOPMENT

#### *Description and Analysis*

The *State CEQA Guidelines* require the analysis of a No Project Alternative (Section 15125.6(e)). This analysis must discuss existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project were not to be approved based on current plans, site zoning, and consistent with available infrastructure and community services. The purpose of describing and analyzing a No Project Alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

Under the No Project/No Redevelopment Alternative, the existing buildings, streets, hardscape, and landscaping would remain in their current condition and the buildings would remain occupied with residential, commercial and light industrial uses.

**Air Quality**

The No Project/No Redevelopment Alternative would avoid the project's significant impacts associated with exposure of sensitive receptors to construction emissions of fugitive dust and toxic air contaminants or an increase of criteria pollutants from construction emissions as there would be no construction activities and no mitigation would be required. Similarly, the significant impact of the proposed project related to exposure of project site residents to railroad toxic air contaminants would not occur under this alternative as new residents would not be placed in the portion of the project site near El Camino Real where the impact would occur.

The less than significant impacts of the proposed project associated with operational emissions of criteria pollutants and carbon monoxide emissions would be further reduced or avoided under this alternative due to the lower trip generation of the existing residential, commercial, and light industrial uses.

**Cultural Resources**

No ground-disturbing activities, which could affect undiscovered cultural resources, would occur on the project site under this alternative and the proposed project's less than significant impacts to cultural resources and human remains would be avoided. Additionally, the proposed project's significant and unavoidable impact on historical architectural resources and the significant and unavoidable cumulative impact would be avoided, since the homes at 3370 The Alameda and 3410 The Alameda would remain on the project site.

**Greenhouse Gas Emissions**

This alternative further reduces the less than significant GHG emissions impacts of the proposed project as it would not result in construction activities and compared to the proposed project this alternative would result in fewer vehicle trips from the existing residential, commercial, and light industrial uses that would continue to occupy the site under this alternative. The No Project/No Redevelopment Alternative does not propose any modifications to the project site buildings and would therefore not be able to implement the City of Santa Clara CAP measures to improve energy and water efficiency. However, the measures in the CAP are recommended and not mandatory for existing development. Therefore, continued use of the existing buildings would be in compliance with the CAP.

**Hazards and Hazardous Materials**

This alternative would avoid ground-disturbing activities that could expose construction workers to volatile organic compounds (VOC) in the soil or affect the groundwater under the site. No water would be extracted during dewatering, thus avoiding impacts from petroleum hydrocarbons, TPH associated VOCs, and metals. No impact would occur and no mitigation would be required.

**Land Use and Planning**

This alternative would not construct any new facilities or uses and would not divide an established community. In addition, no new traffic would be generated under this alternative. However, the No Project/ No Redevelopment Alternative would not assist in correcting the City's jobs housing imbalance, and would not achieve the project objective to redevelop the project site with higher density, transit-oriented development that is called for in both the City's General Plan and in Plan Bay Area.

**Noise**

This alternative would avoid the potentially significant impact of the proposed project related to the exposure of off-site receptors to noise associated with stationary noise sources and noise impacts at

interior and exterior primary use spaces, since no additional construction would occur and no new receptors would occupy the site. It would also avoid the potentially significant impact related to construction noise and vibration as no construction activities would occur. No mitigation would be required. Finally, this alternative would avoid the other less than significant noise impacts of the proposed project.

**Public Services**

There would be no demand for additional public services such as police, fire, schools, and library services under this alternative as no new residents or employees would be added to the project site. This alternative would avoid the potentially significant impacts related to the provision of and the physical deterioration of park facilities, as there are no new residents associated with this alternative. No mitigation would be required.

**Transportation and Traffic**

As described above, the No Project/No Redevelopment Alternative would not construct any new buildings on the project site. As a result, no new vehicle trips would be generated under this alternative, and significant and unavoidable project-level and cumulative impacts to the one study intersection would be avoided under this alternative. No mitigation would be required. It would also not result in any improvements related to emergency access, or transit, pedestrian, and bicycle facilities.

**Utilities and Service Systems, including Energy**

There would be no increase in demand for utilities, service systems, and energy under this alternative as no additional building space would be constructed. No mitigation would be required. However, under the No Project/No Redevelopment Alternative, buildings would not be designed to or be required to meet a minimum LEED Gold or greater equivalent standard.

**Other Resource Topics**

The No Project/ No Redevelopment Alternative would not affect visual resources, agricultural resources, biological resources, hydrology and water quality, expose people or structures to geologic hazards, or result in loss of availability of known mineral resources. In addition, population growth would not be induced by the continued use of the project site. No impact would occur and no mitigation would be required.

### *Conclusion and Relationship to Project Objectives*

The No Project/No Redevelopment Alternative would avoid the proposed project's significant and potentially significant impacts related to air quality, cultural resources, hazards and hazardous materials, hydrology and water quality, noise, traffic, public services, and biological resources. The alternative would also avoid the project's significant and unavoidable impact related to traffic under Background (2020) and Cumulative (2040) conditions. This alternative would, however, not achieve any of the objectives of the proposed project and would not be consistent with regional growth planning efforts as outlined in the City's General Plan and Plan Bay Area.

## 5.5.2 Alternative 2: No Project/Planned Development

### *Description and Analysis*

The project site is located in the area designated Santa Clara Station Area in the Santa Clara General Plan. Specifically, the portion of the project site located along El Camino Real is designated Santa Clara Station High Density Residential (37-50 dwelling unit/acre [du/ac]) while the remainder of the site is designated Santa Clara Station Low Density Residential (8-18 du/ac). The proposed project would involve a General Plan amendment to change the designation of the entire project site to Santa Clara Station Very High Density Residential (51-90 du/ac) and allow neighborhood commercial retail uses along Benton Street and El Camino Real. The No Project/Planned Development Alternative would redevelop the site consistent with the future land use designations provided for the project site in the General Plan.

The parcels on the project site designated as Santa Clara Station High Density Residential cover approximately 2.4 acres while the parcels on the project site designated as Santa Clara Station Low Density Residential cover about 2.3 acres. The remaining one acre (approximate) consists of street sections (Sherman and Fremont Streets), which would remain in place and would not be vacated or developed with housing. Based on the acreage and the allowed densities, a maximum of 120 residential units would be allowed on the parcels designated Santa Clara Station High Density Residential and a maximum of 41 residential units would be allowed on the parcels designated Santa Clara Station Low Density Residential for a total of 161 residential dwelling units (224 units fewer than the proposed project). No retail would be provided, as this land use is not allowed under either the Santa Clara Station High Density Residential or Santa Clara Station Low Density Residential designation. The overall residential density would be approximately 28 dwelling units per acre. The amount of amenity space

would be proportionally reduced. A total of 291[3] parking spaces would be required and would be provided in an underground parking garage. Consistent with the General Plan, a centralized open space area would be provided. This alternative would involve similar demolition activities but substantially reduced construction activities as compared to the proposed project. The No Project/Planned Development Alternative is analyzed in detail below because it would reduce the proposed project's significant and unavoidable operational traffic impact.

**Air Quality**

The No Project/Planned Development Alternative would also result in potentially significant impacts associated with exposure of existing sensitive receptors to construction emissions of fugitive dust and toxic air contaminants. Although this alternative would result in similar amounts of demolition, excavation, and grading activities, it would result in reduced construction activities compared to the proposed project due to the reduced number of residential units, a smaller parking garage, smaller amenity space, and elimination of retail space. While the construction emissions would be reduced, lifetime excess cancer risk per million from the construction of this alternative would still remain above the applicable threshold. Mitigation measures identified for the proposed project would apply to this alternative to reduce the impact to a less than significant level. As with the proposed project, this alternative would also place new residents in the portion of the project site adjacent to El Camino Real where those residents would be exposed to railroad toxic air contaminants, resulting in a significant impact. The same mitigation measure would be required.

The less than significant impacts of the proposed project associated with operational emissions of criteria pollutants, and carbon monoxide emissions would be further reduced under this alternative due to the smaller project population which would generate fewer vehicle trips and a smaller number of area sources.

**Cultural Resources**

The No Project/Planned Development Alternative would have a similar development footprint as the proposed project and would result in approximately the same amount of ground-disturbing activities with the potential to affect undiscovered cultural resources on the project site as described for the proposed project. The alternative would therefore result in the same significant impact on archaeological resources as the proposed project and the same mitigation measures identified for the proposed project

---

3 Assuming 91 one-bedroom units requiring 1.4 parking spaces, 70 two-bedroom units requiring 1.9 parking spaces, and proportional visitor and leasing office parking spaces.

would be required to reduce the impact to a less than significant level. As with the proposed project, under this alternative, if the two existing homes on site, 3370 The Alameda and 3410 The Alameda, which appear to meet the City of Santa Clara's Criteria for Local Significance, and the home at 3370 The Alameda, which also appears to be individually eligible for the California Register, can be relocated to an appropriate location, the impact would be reduced to a less than significant level. In the event that the two homes cannot be relocated and have to be demolished, this alternative would also result in a project-level and a cumulative significant and unavoidable impact on historical architectural resources.

**Greenhouse Gas Emissions**

This alternative would further reduce the less than significant GHG emissions impacts of the proposed project as it would result in reduced construction activities. Additionally, this alternative would accommodate a smaller project population, which would result in fewer vehicle trips than the proposed project and there would be fewer dwelling units and associated lower energy and water use as well as less wastewater discharged from the site. All of these reductions would reduce the operational GHG emissions under this alternative compared to the proposed project. As with the proposed project, demolition waste would be diverted in accordance with the City of Santa Clara CAP. In addition, efficient appliances, low flow showerheads, and drought-tolerant plants would be used during construction of this alternative, similar to the proposed project. The resulting energy and water efficiency would comply with the City of Santa Clara CAP measures. Therefore, the No Project/Planned Development Alternative would not conflict with the CAP. However, on a regional level the reduced density of 28 du/acre is not consistent with the Plan Bay Area guidelines for the project site which call for higher density residential uses in proximity to the Santa Clara Transit Center in order to reduce GHG emissions.

**Hazards and Hazardous Materials**

This alternative would have a similar building footprint as the proposed project and therefore would result in approximately the same potentially significant impact related to exposures to on-site soil, soil vapor, and groundwater conditions. The same mitigation measures identified for the proposed project would apply to this alternative to reduce the impact to a less than significant level. The alternative would still be located on a site with residual contamination, thus the same mitigation measures would be implemented to specifically address the existing contamination sources on this property.

**Land Use and Planning**

The No Project/Planned Development Alternative would not develop retail as planned under the proposed project. A total of 161 dwelling units would be provided under this alternative compared to 385 dwelling units under the proposed project. While the proposed project would achieve an overall density

of approximately 67 dwelling units per acre, which exceeds the maximum density allowed under current land use designations, development under the No Project/Planned Development Alternative would achieve a density of 50 dwellings units per acre and 18 dwelling units per acre in the Santa Clara Station High Density Residential and Santa Clara Station Low Density Residential designations, respectively. As a result, development under this alternative would not exceed the maximum density allowed under current land use designations. Development of the project's residential uses in accordance with the Santa Clara Station High Density Residential and Santa Clara Station Low Density Residential land use designations would be consistent with the long-term growth expectations of the City's General Plan. However, the residential density of 28 dwelling units/acre under this alternative would not be consistent with the regional growth expectations for the project site which is designated as "City Center" Place Type in the Plan Bay Area. Plan Bay Area guidelines for land uses within areas designated City Center call for a density of 50 to 150 dwelling units/net acre.

**Noise**

This alternative would expose fewer on-site residents to noise impacts associated with traffic on nearby roadways but the significant impact to receptors in interior and exterior primary use spaces would still occur and the same mitigation would be required. As with the proposed project, the residential buildings under this alternative would also require HVAC equipment and would have the same potential to result in significant stationary source impacts on nearby existing receptors and the same mitigation measures would be required. Similar significant noise and vibration impacts associated with demolition and construction activities would occur under this alternative, although the duration of impact would be reduced given that the retail space would not be developed and the number of residential units would be reduced. The same mitigation measures identified for the proposed project would apply to this alternative to reduce these impacts to a less than significant level.

**Public Services**

The No Project/Planned Development Alternative would result in a slightly lower demand for public services compared to the proposed project as no new employees and fewer residents would be located on the project site. However, the increase in population under this alternative would still result in a potentially significant impact on park facilities. The same mitigation measure identified for the proposed project would apply to this alternative to reduce the impact to a less than significant level.

**Transportation and Traffic**

The No Project/Planned Development Alternative would result in 264 net new daily trips compared to the 1,725 net new daily trips under the proposed project. This alternative would generate 45 AM peak

hour net trips and 32 PM peak hour net trips compared to the proposed project that would generate 119 and 126 net trips in the AM and PM peak hours respectively. The lower trip generation associated with this alternative would eliminate the traffic operations impact at the intersection of Lafayette Street and Lewis Street under Background (2020) and Cumulative (2040) conditions. Although the intersection would continue to operate at unacceptable conditions during the PM peak hour under Background (2020) conditions, the addition of project trips would neither increase the critical delay by 0.01 or more (0.008) nor increase the critical delay by 4.0 seconds or more (3.3 seconds) during the PM peak hour compared to the Background (2020) No Project conditions. Similarly, while the intersection would continue to operate at unacceptable conditions during the PM peak hour under Cumulative (2040) conditions, the addition of project trips would neither increase the critical delay by 0.01 or more (0.008) nor increase the critical delay by 4.0 seconds or more (3.4 seconds) during the PM peak hour compared to the Cumulative (2040) No Project conditions.

**Utilities and Service Systems, including Energy**

The No Project/Planned Development Alternative would eliminate the retail component of the proposed project and reduce the number of residential units on the project site by 224 units, thereby reducing the demand for utilities, including energy. The proposed project is estimated to demand an average of approximately 60.1 acre-feet per year (afy) of water, which represents an increase in water demand of approximately 58.4 afy over existing conditions. The development under this alternative would demand 27.0[4] afy, which represents an increase in water demand of approximately 25.3 afy over existing conditions. Therefore, this alternative would further reduce the proposed project's less than significant impact related to water supply entitlements. This alternative would also further reduce the less than significant impacts of the proposed project related to wastewater, solid waste, and demand for natural gas and electricity.

**Other Resource Topics**

Similar to the proposed project, the No Development/Planned Development Alternative would result in no impacts or less than significant impacts on agricultural resources, geology and soils, mineral resources, and population and housing. No mitigation would be required. As with the proposed project,

---

4 The No Project/Planned Development Alternative would result in 224 fewer residential units than the proposed project and would eliminate the retail component of the proposed project. The amount of amenity space would also be proportionally reduced. This water demand estimate accounts for the reduction in residential units, amenity space, and the elimination of retail. The amount of landscape irrigation water and water demand for leasing office use is assumed to remain the same as under the proposed project.

the alternative would have the potential to affect nesting birds and groundwater quality, thus the same mitigation measures would be required to reduce the impacts to a less than significant level.

### *Conclusion and Relationship to Project Objectives*

The No Development/Planned Development Alternative would reduce the proposed project's significant and potentially significant impacts related to air quality, GHG emissions, land use and planning, noise, public services, traffic, and utilities. The alternative would also avoid the project's significant and unavoidable impact related to traffic under Background (2020) and Cumulative (2040) conditions. The alternative's impacts related to biological resources, cultural resources, hydrology and water quality, and hazards and hazardous materials would be comparable to those of the proposed project. By removing the retail component and reducing the density of the proposed project, this alternative would not achieve the City's objectives of providing a mixed-use development that maximizes density with accessibility to alternate transportation modes to the same extent as the proposed project, nor would it meet the City's objective of redeveloping underutilized parcels with higher-density projects along established transit corridor to the same extent as the proposed project. Finally, this alternative would not be consistent with regional growth planning efforts as outlined in Plan Bay Area.

## 5.5.3 Alternative 3: Reduced Residential Density

### *Description and Analysis*

Under the Reduced Residential Density Alternative, the number of residential units proposed would be reduced by approximately 25 percent compared to the proposed project, thus lowering the number of residential units to about 289 units. The overall residential density would be approximately 50.7 dwelling units per acre. The amount of retail and amenity space would remain the same as the proposed project. The reduction in the number of residential units that would be built would be achieved by removing the top floor of the proposed structure and/or otherwise modifying the building plans to eliminate some units. The project footprint and landscaping plans under this alternative would essentially be the same as the proposed project, and the Sherman and Fremont Streets would be vacated and used for the development of the proposed facilities. As a result of the 25 percent reduction in the number of residential units, the parking needs of this alternative would be lower and a total of 672 parking spaces would be needed, instead of 839 parking spaces needed under the proposed project. All other aspects of the proposed project would remain the same. This alternative would involve similar demolition activities and slightly reduced construction activities as compared to the proposed project, but the same development footprint.

**Air Quality**

The Reduced Residential Density Alternative would also result in potentially significant impacts associated with exposure of existing sensitive receptors to construction emissions of fugitive dust and toxic air contaminants. Although the Reduced Residential Density Alternative would result in similar amounts of demolition, excavation, and grading activities, it would result in slightly reduced construction activities compared to the proposed project due to smaller residential building size. While the construction emissions would be reduced, lifetime excess cancer risk per million from the construction of this alternative would still remain above the applicable threshold. The same mitigation measures identified for the proposed project would apply to this alternative to reduce the impact to a less than significant level. As with the proposed project, this alternative would also place new residents in the portion of the project site adjacent to El Camino Real where those residents would be exposed to railroad toxic air contaminants, resulting in a significant impact. The same mitigation measure would be required.

The less than significant impacts of the proposed project associated with operational emissions of criteria pollutants, and carbon monoxide emissions would be further reduced under this alternative due to the smaller project population which would generate fewer vehicle trips and a smaller number of area sources.

**Cultural Resources**

The Reduced Residential Density Alternative would have the same development footprint as the proposed project and would result in similar ground-disturbing activities with the potential to affect undiscovered cultural resources on the project site as described for the proposed project. The alternative would, therefore, result in the same significant impact on archaeological resources as the proposed project and the same mitigation measures identified for the proposed project would be required to reduce the impact to a less than significant level. As with the proposed project, under this alternative, if the two existing homes on site, 3370 The Alameda and 3410 The Alameda, which appear to meet the City of Santa Clara's Criteria for Local Significance, and the home at 3370 The Alameda, which also appears to be individually eligible for the California Register, can be relocated to an appropriate location, the impact would be reduced to a less than significant level. In the event that the two homes cannot be relocated and have to be demolished, this alternative would also result in a project-level and a cumulative significant and unavoidable impact on historical architectural resources.

**Greenhouse Gas Emissions**

This alternative would further reduce the less than significant GHG emissions impacts of the proposed project, as it would result in reduced construction activities and associated emissions due to a 25 percent

reduction in the number of residential units. As there would be fewer dwelling units, there would be associated lower energy and water use as well as less wastewater discharged from the site, as well as fewer vehicle trips to and from the site. All of these reductions would reduce the operational GHG emissions under this alternative compared to the proposed project. As with the proposed project, demolition waste would be diverted in accordance with the City of Santa Clara CAP. In addition, efficient appliances, low flow showerheads, and drought-tolerant plants would be used during construction of this alternative, similar to the proposed project. The resulting energy and water efficiency would comply with the City of Santa Clara CAP measures. Therefore, the Reduced Residential Density Alternative would not conflict with the CAP.

**Hazards and Hazardous Materials**

This alternative would involve construction in the same areas as the proposed project, and therefore would result in the same potentially significant impact related to exposures to on-site soil conditions. The same mitigation measures identified for the proposed project would apply to this alternative to reduce the impact to a less than significant level. The project site would still be located on a site with residual contamination, thus the same mitigation measures would be required to address the existing contamination sources on this property.

**Land Use and Planning**

This alternative would construct 96 fewer residential units but would still exceed the range of the General Plan's residential density requirements with an overall residential density of approximately 50.66 dwelling units per acre. The retail square footage would remain the same as under the proposed project, so the discussion of the retail component's consistency with the General Plan set forth in **Subsection 4.5.4.3** would apply to this alternative as well. A General Plan Amendment would similarly be required for this alternative to change the designations on the project site to Santa Clara Station Very High Density Residential, which allows for 51-90 dwellings per acre. Concerning the retail portion of the project site, the project applicant would need to obtain a General Plan Amendment to add a policy to Section 5.4.3 of the General Plan encouraging limited neighborhood commercial within the Santa Clara Station Very High Density Residential land use designation to ensure that the Reduced Residential Density Alternative is consistent with the City's General Plan land use designation. No mitigation would be required.

**Noise**

This alternative would expose fewer on-site residents to noise impacts associated with traffic on nearby roadways but the significant impact to on-site receptors in interior and exterior primary use spaces would still occur and the same mitigation would be required. As with the proposed project, the residential

buildings under this alternative would also require HVAC equipment and would have the same potential to result in significant stationary source impacts on nearby existing receptors and the same mitigation measures would be required. Similar noise and vibration impacts associated with demolition and construction activities would occur under this alternative, although slightly reduced given the reduced number of the dwelling units to be constructed. The same mitigation measures identified for the proposed project would apply to this alternative to reduce these impacts to a less than significant level.

**Public Services**

The reduced residential density and lower associated population of this alternative would result in lower demand for public services compared to the proposed project. This alternative would still result in a potentially significant impact related to the provision of park facilities; however, the impact would be reduced due to the reduction in the project's residential population by approximately 25 percent. The same mitigation measures identified for the proposed project would apply to this alternative to reduce the impact to a less than significant level.

**Transportation and Traffic**

The Reduced Residential Density Alternative would result in 1,331 new daily net trips compared to the 1,725 new daily net trips in the proposed project. The alternative would generate 95 AM peak hour net trips and 97 PM peak hour net trips compared to the proposed site plan that would generate 119 and 126 net trips in the AM and PM peak hours respectively. The lower trip generation associated with this alternative would reduce, but not eliminate the traffic operations impact at the intersection of Lafayette St and Lewis St under both Background (2020) and Cumulative (2040) conditions. Although operations at the intersection during the PM peak hour would improve under this alternative under Background (2020) conditions compared to the proposed project, the addition of project trips would still increase the critical V/C ratio by 0.011, which is more than 0.01, and increase the critical delay by 4.9 seconds, which is more than 4.0 seconds. Similarly, while operations at the intersection during the PM peak hour would improve under this alternative under Cumulative (2040) conditions compared to the proposed project, the addition of project trips would still increase the critical V/C ratio by 0.012, which is more than 0.01, and increase the critical delay by 5.0, which is more than 4.0 seconds. Therefore, this alternative would not avoid the project's significant and unavoidable traffic impacts.

**Utilities and Service Systems, including Energy**

The Reduced Residential Density Alternative would reduce the number of apartment units on the project site by 25 percent, thereby reducing the demand for utilities, including energy. The proposed project is estimated to demand an average of approximately 60.1 afy, which represents an increase in water

demand of approximately 58.4 afy over existing conditions. The project under this alternative would demand 47.1[5] afy, which represent an increase in water demand of approximately 45.4 afy over existing conditions. Therefore, this alternative would further reduce the proposed project's less than significant impact related to water supply entitlements. This alternative would also further reduce the less than significant impacts of the proposed project related to wastewater, solid waste, and demand for gas and electricity.

**Other Resource Topics**

Similar to the proposed project, the Reduced Residential Density Alternative would result in no impacts or less than significant impacts on agricultural resources, geology and soils, mineral resources, and population and housing. No mitigation would be required. As with the proposed project, the alternative would have the potential to affect nesting birds and water quality, thus the same mitigation measures would be required to reduce impacts to a less than significant level.

## *Conclusion and Relationship to Project Objectives*

The Reduced Residential Density Alternative would reduce the proposed project's impacts related to air quality, GHG emissions, land use and planning, noise, public services, traffic, and utilities. However, it would not reduce the project's significant and unavoidable project-level and cumulative traffic impacts to a less than significant level. The alternative's impacts related to biological resources, hydrology and water quality, cultural resources and hazards and hazardous materials would be comparable to those of the proposed project. By reducing the density of the proposed project, this alternative would not achieve the City's objectives of providing a mixed-use development that maximizes density with accessibility to alternate transportation modes to the same extent as the proposed project, nor would it meet the City's objective of redeveloping underutilized parcels with higher-density projects along established transit corridor to the same extent as the proposed project. Nor would the alternative achieve any of the applicant's project objectives. Finally, by providing fewer residential units the Reduced Density Alternative will provide less assistance to the City in improving its jobs/housing balance.

---

5 The Reduced Density Alternative would result in 25 percent fewer residential units than the proposed project and this water demand estimate accounts for the 25 percent reduction in residential units. The water demand associated with amenity space, leasing office, retail use, and landscape irrigation is assumed to be the same as it is under the proposed project.

## 5.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of the environmentally superior alternative among the alternatives to the proposed project. The environmentally superior alternative must be an alternative to the proposed project that reduces some of the environmental impacts of the proposed project, regardless of the financial costs associated with this alternative. Identification of the environmentally superior alternative is an informational procedure and the alternative identified as the environmentally superior alternative may not be that which best meets the goals or needs of the proposed project. Additionally, if the No Project Alternative is determined to reduce most impacts, CEQA requires that the EIR identify an environmentally superior alternative among the other alternatives (*State CEQA Guidelines* Section 15126.6€).

Based on the analysis above, Alternative 2, No Project/Planned Development Alternative is determined to be the environmentally superior alternative. Although, this alternative would not be consistent with regional growth planning efforts as outlined in Plan Bay Area, Alternative 2 would eliminate the significant and unavoidable traffic operations impacts at the intersection of Lafayette Street and Lewis Street under Background (2020) and Cumulative (2040) conditions. This alternative would also reduce the potentially significant impacts identified for the proposed project. For these reasons, Alternative 2 is the environmentally superior alternative.

**Table 5.0-1**
**Summary Comparison of Project Alternatives**

| | Project Impact | Proposed Project (Before and After Mitigation) | No Project Alternative | Planned Development Alternative | Reduced Residential Density Alternative |
|---|---|---|---|---|---|
| AIR-1 | Construction activities associated with the proposed project would not result in a violation of an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment under an applicable national or state ambient air quality standard (including resulting in emissions which exceed quantitative thresholds for ozone precursors), but would result in substantial dust emissions. | S/LTS | NE | S-/LTS | S-/LTS |
| AIR-4 | Project construction activities and operations would expose existing or future sensitive receptors to substantial pollutant concentrations. | S/LTS | NE | S-/LTS | S-/LTS |
| AIR-5 | Project operation would expose project sensitive receptors to substantial pollutant concentrations. | S/LTS | NE | S-/LTS | S-/LTS |
| BIO-1 | The proposed project could have an adverse effect on special-status bird and non-special status bird species during the nesting season. | PS/LTS | NE | PS=/LTS | PS=/LTS |
| CUL-1 | The proposed project would potentially cause a substantial adverse change in the significance of a historic architectural resource as defined in CEQA Guidelines §15064.5. | S/SU | NE | S=/SU | S=/SU |
| CUL-2 | The proposed project would potentially cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5, and would disturb any human remains, including those interred outside of formal cemeteries. | PS/LTS | NE | PS=/LTS | PS=/LTS |
| CUM CUL-1 | The proposed project, in conjunction with other past, present and reasonably foreseeable future development, could result in significant cumulative cultural resource impacts. | S/SU | NE | S=/SU | S=/SU |

| | Project Impact | Proposed Project (Before and After Mitigation) | No Project Alternative | Planned Development Alternative | Reduced Residential Density Alternative |
|---|---|---|---|---|---|
| HAZ-2 | The proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. | PS/LTS | NE | PS=/LTS | PS=/LTS |
| HAZ-5 | The proposed project is not located on a list of hazardous material sites subject to corrective action compiled pursuant to Government Code Section 65962.5 (Cortese List), but is listed on a number of other government databases and contains residual contamination that exceeds environmental thresholds. | PS/LTS | NE | PS=/LTS | PS=/LTS |
| HYD-1 | The proposed project could result in the discharge of storm water that would violate any water quality standards or otherwise substantially degrade water quality. | PS/LTS | NE | PS=/LTS | PS=/LTS |
| NOISE-1 | Residential uses proposed at the project site would be exposed to exterior noise levels greater than those considered "compatible" per the City of Santa Clara General Plan, the State Building Code, and CALGreen. | PS/LTS | NE | PS-/LTS | PS-/LTS |
| NOISE-4 | Noise from heating, ventilating, and air conditioning equipment for the proposed buildings may exceed the City's daytime and nighttime noise standards at existing neighboring residential properties and the daytime and nighttime noise standards at existing neighboring commercial properties. | PS/LTS | NE | PS-/LTS | PS-/LTS |
| NOISE-6 | Noise generated by construction activities on the project site would substantially increase noise levels at residential and other noise sensitive land uses in the vicinity of the project site. | PS/LTS | NE | PS-/LTS | PS-/LTS |
| NOISE-7 | The construction of the project could expose persons and structures off of the project site to excessive groundborne vibration. | PS/LTS | NE | PS-/LTS | PS-/LTS |
| PUB-5 | Development of the proposed project would increase the use of existing neighborhood parks or other recreational facilities such that substantial physical deterioration of the facilities could occur or be accelerated. In addition, the demand created by the proposed project could require the construction of new or physically altered parks and recreation facilities. | PS/LTS | NE | PS-/LTS | PS-/LTS |

| | Project Impact | Proposed Project (Before and After Mitigation) | No Project Alternative | Planned Development Alternative | Reduced Residential Density Alternative |
|---|---|---|---|---|---|
| TRANS-2 | Development of the proposed project would conflict with the applicable standards adopted by the local jurisdictions to evaluate the performance of CMP and non-CMP intersections under Background (2020) conditions. | S/SU | NE | LTS | S-/SU |
| CUM TRANS-1 | Development of the proposed project would conflict with the applicable standards adopted by the local jurisdictions to evaluate the performance of CMP and non-CMP intersections under Cumulative (2040) with project conditions. | S/SU | NE | LTS | S-/SU |

*KEY*
*SU Significant and unavoidable*
*PS Potentially significant impact*
*LTS Less than significant impact*
*NE No Effect*
*= Impact similar to proposed project*
*- Impact less than proposed project*
*+ Impact greater than proposed project*

## 5.7 REFERENCES

CSC. 2011. City of Santa Clara 2010–2035 General Plan Integrated Final Environmental Impact Report. January.

Fehr & Peers. 2015. Mission Town Center Transportation Impact Alternatives Analysis. October.

# 6.0 OTHER CEQA CONSIDERATIONS

## 6.1 INTRODUCTION

Sections 15126 and 15128 of the California Environmental Quality Act (CEQA) Guidelines state that an EIR must include a discussion of the following topics:

- Significant environmental effects which cannot be avoided if the proposed project is implemented
- Significant irreversible environmental changes
- Growth-inducing impacts of the proposed project
- A brief statement of the reasons why certain possible effects of a project have been determined not to be significant and therefore, are not evaluated in the Environmental Impact Report (EIR)
- A brief discussion of Mandatory Findings of Significance

The following sections address each of these types of impacts based on the analyses included in **Section 4.0, Environmental Impact Analysis**.

## 6.2 SIGNIFICANT UNAVOIDABLE EFFECTS

This section identifies significant impacts associated with the implementation of the proposed project that cannot be mitigated to a less than significant level. As part of the certification process, the City Council will make a final decision as to the significance of impacts and the feasibility of mitigation measures in this Draft EIR. As detailed in **Section 4.0**, implementation of the proposed project would result in the following significant impacts that could not be mitigated to a less than significant level:

**Impact CUL-1:** **The proposed project would potentially cause a substantial adverse change in the significance of a historical architectural resource as defined in CEQA Guidelines §15064.5..**[1]

**Cumulative Impact CUL-1:** **The proposed project, in conjunction with other past, present and reasonably foreseeable future development, could result in significant cumulative cultural resource impacts.**[2]

---

1 As noted in **Section 4.2, Cultural Resources**, this significant and unavoidable impact would occur only in the event that the two homes, 3370 The Alameda and 3410 The Alameda, which appear to meet the City of Santa Clara's Criteria for Local Significance, and the home at 3370 The Alameda which also appears to be individually eligible for the California Register, cannot be relocated to a suitable site and must be recorded and then demolished to build the project.

**Impact TRANS-2:** **Development of the proposed project would conflict with the applicable standards adopted by the local jurisdictions to evaluate the performance of CMP and non-CMP intersections under Background (2020) conditions.**

**Cumulative Impact TRANS-1:** **Development of the proposed project would conflict with the applicable standards adopted by the local jurisdictions to evaluate the performance of CMP and non-CMP intersections under Cumulative (2040) with project conditions.**

## 6.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the *State CEQA Guidelines* states that an EIR must include a discussion of any significant irreversible environmental changes that would be caused by a proposed project. Generally, a project would result in significant irreversible environmental changes if:

- the primary and secondary impacts would generally commit future generations to similar uses;
- the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy);
- the project would involve a large commitment of nonrenewable resources; or
- the project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project.

### 6.3.1 Commit Future Generations to Similar Uses

Implementation of the proposed project requires demolition of existing buildings and would result in the construction of a mixed-use residential development. This development would occur on land that is already developed with light industrial, commercial and residential uses. The applicant is requesting approval for Planned Development zoning. Planned Development zoning permits "any residential, commercial, office, research and development; or public uses if they are in harmony with other authorized uses and serve to fulfill the function of the planned development while complying with the City's General Plan." The zoning change for this proposed project would not affect future specific uses at the project site as the site has historically been in urban use and would continue to be in urban use.

---

2 As noted in **Section 4.2**, the project's contribution to the cumulative impact on historic architectural resources would be significant in the event that the two homes, 3370 The Alameda and 3410 The Alameda, which appear to meet the City of Santa Clara's Criteria for Local Significance, and the home at 3370 The Alameda which also appears to be individually eligible for the California Register, cannot be relocated to a suitable site and must be recorded and then demolished to build the project.

### 6.3.2 Irreversible Changes to the Physical Environment

The project site is currently developed with buildings, pavement, and landscaping. The proposed project would occupy the already disturbed land on the project site with development of a similar character. Therefore, no irreversible changes to the physical environment are anticipated as a result of project construction or implementation.

### 6.3.3 Consumption of Natural Resources

The proposed project involves a high-density, mixed-use residential/commercial development. Development of this type would involve the consumption of renewable and non-renewable resources. Given the changes to the project site, an irreversible commitment to the use of renewable and non-renewable resources during the construction and operation phases of the proposed project would occur with project implementation.

Resources such as lumber and other forest products are generally considered renewable resources. Such resources would be replenished over the lifetime of the proposed project. As such, the development of the proposed project would not result in the irreversible commitment of renewable resources. Non-renewable resources, such as natural gas, petroleum based products, asphalt, petrochemical construction materials, steel, copper and other metals, etc., are considered to be resources that are only available in finite supply. Therefore, the replacement of these materials would not likely occur over the lifetime of the proposed project.

The demand for renewable and non-renewable resources is expected to increase regardless of the development of the proposed project. If not consumed by the proposed project, these resources would likely be committed to other projects to meet the anticipated housing and retail space needs related to increases in population in the City of Santa Clara. Furthermore, the investment of resources in this project would be typical of the level of investment normally required for residential developments of this size.

## 6.4 GROWTH-INDUCING IMPACTS

This section evaluates the potential for growth inducement as a result of implementation of the proposed project. Section 15126.2(d) of the *State CEQA Guidelines* requires that an EIR include a discussion of the potential for a proposed project to foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.

In general terms, a project may foster economic or population growth in a geographic area if it meets any one of the criteria that are identified below.

- The project removes an impediment to growth (e.g., the establishment of an essential public service, the provision of new access to an area, or a change in zoning or general plan designation).
- Economic expansion, population growth, or the construction of additional housing occurs in the surrounding environment in response to the project, either directly or indirectly (e.g., changes in revenue base, employment expansion, etc.).
- Development or encroachment in an isolated or adjacent area of open space (being distinct from an "infill" type of project).

Should a project meet any one of these criteria, it can be considered growth inducing. An evaluation of the proposed project with regard to these growth-inducing criteria is provided below.

The *State CEQA Guidelines* require that consideration also be given to potential impacts on community service facilities resulting from increases in population. **Chapter 4.0** of this Draft EIR addresses potential impacts on community service facilities (e.g., police, fire, water, wastewater, etc.) resulting from increases in population on the project site.

### 6.4.1 Removal of an Impediment to Growth

Growth in an area may result from the removal of physical impediments or restrictions to growth, as well as the removal of planning impediments resulting from land use plans and policies. In this context, physical growth impediments may include nonexistent or inadequate access to an area or the lack of essential public services (e.g., water service), and planning impediments may include restrictive zoning and/or general plan designations.

The project site is currently developed and is served by a full range of public services and utilities. The existing buildings are in good condition and are currently occupied. In the event the proposed redevelopment does not proceed, the buildings on site would continue to be occupied by existing users. Therefore, the proposed project would not remove an obstacle to growth, as the site would continue to be occupied in the event that the project is not approved.

The new residential units proposed by the proposed project would connect to existing water, wastewater, gas, communications, and electrical lines that run through the project site or along the site boundary. Infrastructure improvements would occur within the project site, and would not require an expansion of Santa Clara Water and Sewer Utilities conveyance facilities, wastewater treatment capacity, water supply, solid waste, or other infrastructure facilities that would provide capacity for future projects surrounding the project site.

The proposed project would construct 12- and 24-inch water mains in The Alameda and Harrison Street. Additionally, the project would extend the 8-inch recycled water main approximately 500 linear feet

within Fremont Street from the intersection of Fremont and Alviso Streets to the project frontage on the east side of the intersection of The Alameda and Fremont Street. Furthermore, the project proposes to reroute the storm drain on Sherman Street around the project site to the east along Benton Street and then to the north along El Camino Real. The new segment of storm drain would be upsized as part of the proposed project to 72 inches to maintain prior capacity. The proposed utilities and infrastructure upgrades would be on-site and would serve only the proposed project. Given that the proposed project does not extend or expand an essential public service and would be accommodated by existing public services and utilities, the proposed project would not be considered growth inducing with respect to service/utility infrastructure.

The project site is currently accessible from Benton Street, The Alameda and El Camino Real. No off-site roadway extensions would be required to implement the proposed project. Consequently, the proposed project would not induce growth due to an extension of transportation infrastructure.

As noted above, development impediments and regulatory legislation, such as land use plans and policies, may also restrict or deter localized growth and can be considered an impediment to growth. The current General Plan land use designation for the project site is Santa Clara Station Area. Specifically, the portion of the project site located along El Camino Real is designated Santa Clara Station High Density Residential (37-50 dwelling unit/acre [du/ac]) while the remainder of the site is designated Santa Clara Station Low Density Residential (8-18 du/ac). Implementation of the project would involve a General Plan Amendment to re-designate the project site to Santa Clara Station Very High Density Residential (51-90 du/ac) and would add a policy to Section 5.4.3 of the General Plan encouraging limited neighborhood commercial within the Santa Clara Station Very High Density Residential land use designation. In addition, approval of the proposed project would require re-zoning of the project site from ML-Light Industrial; R1-6L-Single Family; R2-7L-Duplex; R3-25D-Moderate-Density Multiple Dwelling; and CT-Thoroughfare Commercial to Planned Development to reflect the proposed residential and commercial land uses. Although the change in land designation and zoning could encourage other requests for land use designations or rezoning of nearby properties, each application would be considered by the City of Santa Clara on a project-by-project basis. The proposed change in land use designation and rezoning for the proposed project would only apply to the project site, would not encompass other properties, and would not facilitate the development of other projects.

### 6.4.2 Population and Economic Growth

The proposed project would result in a temporary increase in construction-related job opportunities in the local area. However, employment opportunities provided by construction would not likely result in household relocation by construction workers to the vicinity of the project area. Construction workers would likely be drawn from the labor force already residing in the City of Santa Clara and the surrounding communities and the broader Bay Area region. Employment opportunities provided during the relatively short construction period would not constitute a substantial growth in employment.

The proposed project includes approximately 27,000 square feet of retail space and 4,000 square feet of leasing space, which would create approximately 78 long-term employment opportunities. As retail jobs are not high paying, they are typically filled by persons already living in the region and do not attract immigration from other areas. Furthermore, the work force in the Bay Area is sizable. In addition, persons who would fill these jobs would be expected to commute from their existing homes in the Bay Area and not relocate to be close to the project site. Therefore, these jobs would likely employ persons living in the Bay Area communities and would be unlikely to lead to substantial population growth in the City of Santa Clara.

The future residents on the project site could represent an addition to the region's labor force; however, it is not known to what extent people would move to the project site from other communities within the region, or would be new residents in the region. The number of employed residents on the project site would be small in relation to the regional work force.

The proposed 385 new residential units have the potential to increase the population of the City of Santa Clara by approximately 1,036 people. The DOF estimates the total population for the City of Santa Clara in 2014 was 120,973 people (DOF 2015). The proposed project would increase the City's population by approximately 0.9 percent, which is within the City's General Plan projection of 122,690 residents in 2015 and 154,825 residents by 2035. Therefore, the project would be within the growth projections of the City's General Plan.

Given that implementation of the proposed project would not result in a large increase in the residential or worker population in the City of Santa Clara, the increase in population and economic growth associated with the proposed project would not be substantial.

### 6.4.3 Development of Open Space

The project site and its surrounding area are currently developed. Therefore, implementation of the proposed project would not involve the development of open space nor would it induce the development

of any lands that are currently open space. The proposed project thus is not considered growth inducing based on this criterion.

## 6.5 MANDATORY FINDINGS OF SIGNIFICANCE

The lead agency shall find that a project may have a significant effect on the environment and thereby require an EIR to be prepared for the project where there is substantial evidence, in light of the whole record, that any of the following conditions may occur (Section 15065 of the *State CEQA Guidelines*):

- Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

- Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?

- Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

As discussed in **Section 4.10, Other Topics**, the project site and vicinity are developed and do not contain habitat for rare and endangered plant and wildlife species. Although project construction activities could affect nesting birds, mitigation is proposed which would reduce the impact to a less than significant level. Therefore the project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal.

As analyzed in **Section 4.2, Cultural Resources**, the project site is in an area known to contain significant prehistoric and historic resources as well as burial sites. Thus, the project site is considered sensitive for archaeological resources and human remains. To avoid project impacts to cultural resources, a Treatment Plan shall be implemented prior to and during construction activities. Two of the existing buildings on site, 3370 The Alameda and 3410 The Alameda, appear to meet the City of Santa Clara's Criteria for Local Significance, and the home at 3370 The Alameda also appears to be individually eligible for the California Register. Mitigation is proposed to require the applicant to relocate the buildings to an appropriate

location. If relocation is feasible, project impacts would be reduced to a less than significant level and further mitigation would not be required. However, if relocation is infeasible, mitigation would be implemented which requires documentation of the two homes, salvage and reuse of building materials, and implementation of a public exhibit/education program to present interpretive information on the early residential development and architecture of the project area and vicinity. These mitigation measures would help to reduce the project impact but would not mitigate to a less than significant level. Therefore, with relocation of the two homes and implementation of a Treatment Plan for archaeological resources, the project would not eliminate important examples of the major periods of California history or prehistory.

Cumulative impacts are evaluated at the end of each resources topic in this Draft EIR. As the analysis shows the proposed project would result in significant cumulative impacts related to traffic and solid waste.

As shown by the analysis in this Draft EIR with mitigation, the proposed project would not result in substantial adverse direct and indirect impacts to human beings.

## 6.6 REFERENCES

California Department of Finance (DOF). 2015. E-1 Population Estimates for Cities, Counties, and the State. May.

# 7.0 REPORT PREPARATION

## 7.1 LEAD AGENCY

City of Santa Clara
1500 Warburton Avenue
Santa Clara, California 95050

Kevin Riley, Director of Planning & Inspection

Yen Han Chen, Associate Planner

Dennis Ng, City Traffic Engineer

## 7.2 EIR CONSULTANT

Impact Sciences, Inc.
505 14th Street, Suite 1230
Oakland, California 94612

Shabnam Barati, Ph.D., Managing Principal

Paul Stephenson, AICP, Project Manager

Angela Pan, Project Planner

Andrea Harsma, Publications