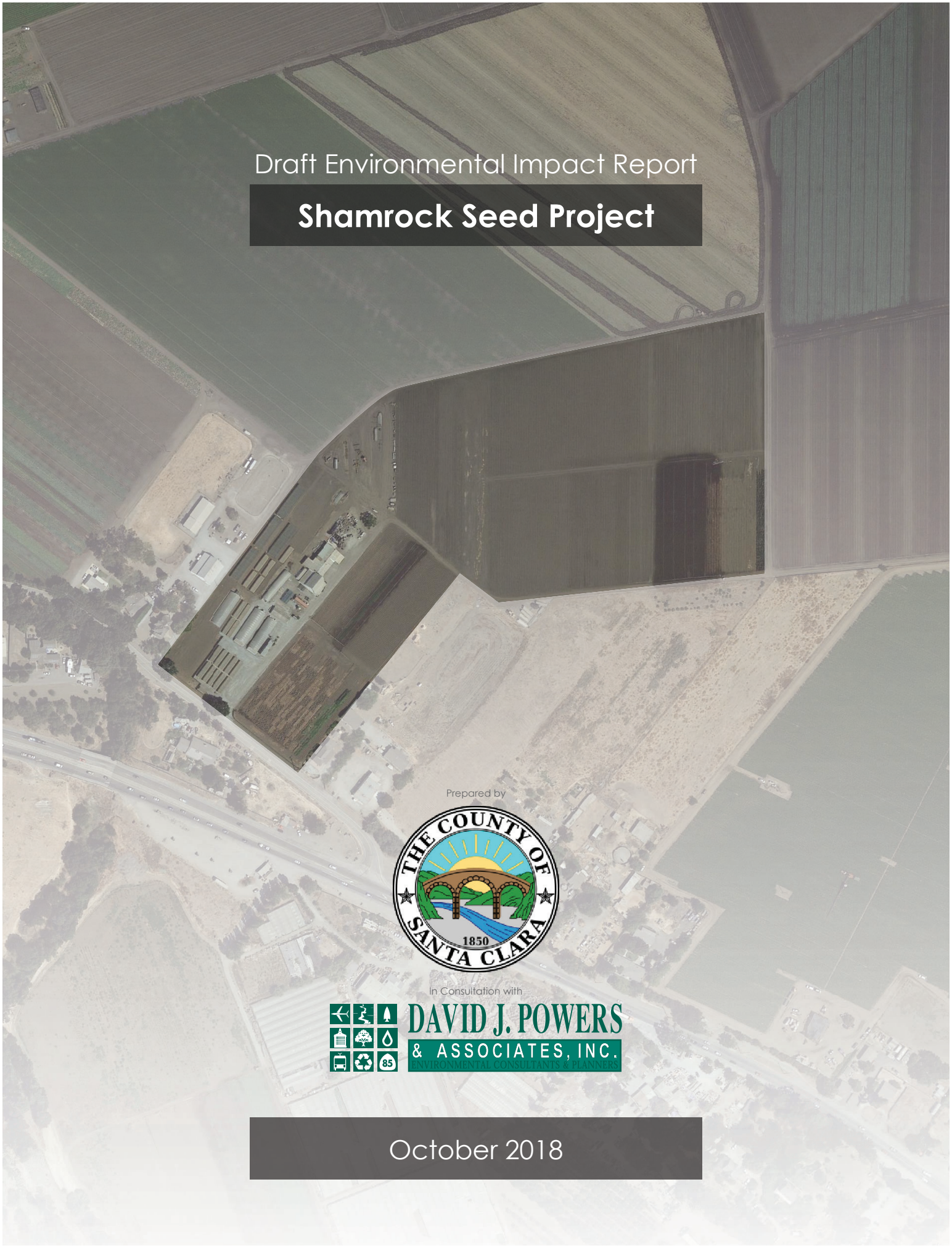


Draft Environmental Impact Report

Shamrock Seed Project

Prepared by

THE COUNTY OF SANTA CLARA 1850

In Consultation with

DAVID J. POWERS & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & PLANNERS

October 2018

TABLE OF CONTENTS

Figures

Tables

Appendices

SECTION 1.0 SUMMARY

1.1 PROJECT LOCATION

The project (Shamrock Seed Company) is located at 6640 Holsclaw Road on two legal parcels under a single assessor's parcel number (841-49-002) in an unincorporated area of Santa Clara County near the City of Gilroy.

1.2 PROJECT OVERVIEW

The project proposes the demolition of existing on-site greenhouses totaling approximately 14,433 square feet (the existing modular office structure, barn, and equipment shed would remain) and construction of a new 10,000-square-foot agricultural research building, parking lot, and two sets of greenhouse structures (measuring approximately 100 feet by 130 feet, and 85 feet by 300 feet). The greenhouses would be internally illuminated during a portion of non-daylight hours. A 90-square-foot electrical utility building, 40,000-gallon above-ground water tank, and stormwater detention pond would also be constructed.

1.3 SUMMARY OF PROJECT IMPACTS

The impacts and mitigation measures described Section 4.0 Environmental Impacts and Mitigation are summarized below and in Table 1.3-1, which follows.

1.3.1 Less-than-Significant Impacts with Mitigation

The project impacts listed below would be reduced to a less-than-significant level with the identified mitigation measures included as part of the project:

- **Aesthetics:** vertical illumination from the greenhouses
- **Biological Resources:** impacts to nesting birds
- **Cultural Resources:** impacts to unknown buried cultural resources and human remains
- **Greenhouse Gas (GHG) Emissions:** project-level and cumulative impacts due to an exceedance of emissions thresholds
- **Hazards and Hazardous Materials:** soil contamination
- **Noise:** construction and mechanical equipment noise

1.3.2 Significant and Unavoidable Impacts

The project would not result in any significant and unavoidable impacts.

Table 1.3-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impact	**Mitigation Measure**
Aesthetics	
Impact AES-1: Vertical illumination from the proposed project greenhouses would exceed the 0.1 footcandle (fc) threshold by 79 times as measured 10 feet from the northwest property line on the adjacent property in the vertical plane.	**MM AES-1.1**: One or more solid barriers shall be installed within four feet of each of the proposed lighted greenhouses along the northwest side to reduce the vertical illuminance at the northwest property line to levels below those specified in the 2011 Model Lighting Ordinance from the International Dark Sky Association/Illuminating Engineering Society (0.1 fc measured 10 feet from the property line on the adjacent property). Such barrier(s) shall have an aggregate opacity of at least 80 percent and be at least as tall as the sidewalls of the proposed lighted greenhouses along their northwest side. At the election of the project applicant, such barrier(s) may either be incorporated within the overall design of the proposed lighted greenhouses themselves, or they may be installed as one or more separate structures constructed adjacent to the proposed lighted greenhouses along their northwest side. The design for such barrier structures shall be submitted to the Santa Clara County Department of Planning and Development for review and approval prior to issuance of a grading or building permit for the project. **(Less-than-Significant Impact with Mitigation)**
Biological Resources	
Impact BIO-1: Noise and equipment activity associated with construction activities at the proposed project site could impact nesting migratory birds due to the loss of fertile eggs or nest abandonment.	**MM BIO 1-1:** The project applicant shall schedule construction to avoid the nesting season to the extent feasible. The nesting season for most birds, including most raptors, in the San Francisco Bay area extends from February 1st through August 31st. If it is not possible to schedule demolition and construction activities outside of the breeding season (September 1st to January 31st), pre-construction surveys for nesting birds following the California Department of Fish and Wildlife (CDFW) bird survey protocols shall be completed by a qualified ornithologist to ensure that no nests are disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of grading, tree removal, or other demolition or construction activities during the early part of the breeding season (February 1st through April 30th) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May 1st through August 31st). During this survey, the ornithologist shall inspect all trees and other possible nesting habitats within 250 feet of the construction areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest, typically 250 feet, to ensure that raptor or migratory bird nests will not be disturbed during project construction.

	The ornithologist shall submit a report indicating the results of the survey and any designated buffer zones to the County Department of Planning and Development for review and approval prior to issuance of a grading or building permit. **(Less-than-Significant Impact with Mitigation)**
Cultural Resources	
Impact CUL-1: Unknown archaeological resources could be damaged during construction of the project.	**MM CUL-1.1:** Prior to the start of ground disturbance, a cultural resources sensitivity training shall be given by a qualified member of the Amah Mutsun Tribal Band of Mission San Juan Bautista to all contractors/workers involved with ground-disturbing construction activities. Verification of completion of the training shall be submitted to the County Department of Planning and Development staff prior to the issuance of any grading or building permits. **MM CUL-1.2:** A qualified Native American monitor from the Amah Mutsun Tribal Band of Mission San Juan Bautista shall be present on site during ground-disturbing construction activities that involve excavation or disturbance more than 10 inches below the existing grade. **MM CUL-1.3:** In the event that archaeological or Native American resources are encountered during construction, work shall be temporarily halted in the vicinity of the discovered materials. Workers shall not alter or disturb the materials and their context until a qualified professional archaeologist has evaluated the materials and provided recommendations for treatment/preservation and documentation of the discovered archaeological and/or Native American resources. Documentation of treatment of the resources shall be submitted to the County Department of Planning and Development staff upon completion of construction. **(Less-than-Significant Impact with Mitigation)**
Impact CUL-2: Project activities could disturb human remains, including those interred outside of formal cemeteries.	**MM CUL-2.1:** In the event that human remains are discovered during ground-disturbing activities and/or grading at the site, all activity within a 50-foot radius of the find shall be stopped. The County Coroner shall be notified immediately and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is necessary and shall comply with all other requirements of Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, Title 14 California Code of Regulations Section 15064.5(e), and County Ordinance Code section B6-16 *et seq*. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of this determination. Once the NAHC identifies the most likely descendants, the descendants shall make recommendations regarding proper burial (including the treatment of grave goods). No further disturbance of the site shall be made except as authorized by the County Coordinator of Indian Affairs

	and NAHC in accordance with the provisions of state law and the County Ordinance. **(Less-than-Significant Impact with Mitigation)**
Greenhouse Gas Emissions	
Impact GHG-1: The project would generate greenhouse gas (GHG) emissions in excess of the Substantial Progress 2030 threshold.	**MM GHG-1.1:** Prior to issuance of occupancy permits for project, the applicant shall hire a qualified GHG specialist to prepare a GHG-reduction plan addressing emissions for the 30-year operational term of the project. The plan shall calculate final emissions from construction and operations and propose quantifiable strategies to ensure that the project-related GHG emissions do not exceed the 2030 threshold of 2.6 metric tons of carbon dioxide equivalent (MTCO2e)/year/service population. The GHG-reduction plan shall include, but not be limited to, the following: **Construction-Related GHG Reduction Measures** • To the extent feasible, diesel-powered construction equipment shall be fueled with renewable diesel fuel. The renewable diesel fuel must be compliant with California's Low Carbon Fuel Standards. Feasibility shall be determined by the County in coordination with the applicant and the qualified GHG specialist. • Implement a construction-worker carpool and transit program to encourage construction workers to carpool and take public transit to commute to and from the project site. The program shall also reimburse workers for any expenses they incur from using local public transit to commute to the construction site. • Install a temporary electric power connection at the construction site to power any electric power equipment used during project construction (e.g., welders, lights) in lieu of any stationary generators powered by fossil fuels. **Operational GHG Reduction Measures** • Implement a transportation demand management program to increase carpool options and transit use to decrease GHG emissions from vehicle trips. • Install electric tankless and/or rooftop solar water heating systems. • Provide electrical outlets at the exterior of all project buildings and in outdoor activity areas to allow sufficient powering of electric landscaping equipment.

	• Use water-efficient irrigation systems (i.e., drip systems with smart irrigation meters) and install drought tolerant plants in landscaped areas. • Install a grey water system to irrigate outdoor landscaping and/or to use for indoor non-potable water uses. • To reduce landfill waste generated during operation of the project, include separate recycling and waste containers to support recycling collection service. Provide on-site composting for organic material • Include any other GHG reduction measures that the applicant deems feasible and approved by Department of Planning and Development staff. Because vehicle trips would constitute the majority of the project's GHG emissions, and given the GHG-free electricity provided to the site, it is anticipated that the project would be unable to reduce the operations-related incremental increase of GHG emissions to below the threshold of 2.6 MTCO2e/year/service population using measures described in MM GHG-1.1. Thus, the project shall offset emissions above the threshold for the 30-year term of project operation. Any offset of operational emissions shall be demonstrated to be permanent, verifiable, and enforceable. To the extent feasible, as determined by Department of Planning and Development staff in coordination with the Bay Area Air Quality management District (BAAQMD), offsets shall be implemented locally. Offsets may include but are not limited to, the following (in order of preference): • Fund local projects (subject to review and approval by BAAQMD) that would result in a permanent, verifiable, and enforceable reduction in GHG emissions - If BAAQMD or the County of Santa Clara develops a GHG mitigation fund, the project may instead pay into this fund to offset project incremental GHG emissions in excess of the threshold. • Purchase of carbon credits to offset project incremental emissions to below the significance threshold - Carbon offset credits must be verified and registered with The Climate Registry, the Climate Action Reserve, or other California Air Resources Board. The offset credits purchased must be consistent with the policies and guidelines of Assembly Bill 32, or available through a County- or BAAQMD-approved local GHG mitigation bank or fund. Proof of payment shall be Department of Planning and Development staff prior to issuance of occupancy permits. If BAAQMD updates its CEQA Air Quality Guidelines at the time the GHG-reduction plan is being prepared or offset fees are being paid, and County Department of Planning and Development staff (in

	consultation with BAAQMD) determines that those guidelines include a project-level GHG threshold that is more appropriate for this project, it may be utilized in place of the threshold used in this EIR. Any revision to the project-level GHG threshold shall only be made after public notice and an administrative hearing**. (Less-than-Significant Impact with Mitigation)**
Hazards and Hazardous Materials	
Impact HAZ-1: Implementation of the proposed project could expose construction workers, area residents, and the environment to contaminated soil during excavation and grading activities.	**MM HAZ-1.1:** Prior to issuance of building permits, soil samples will be collected and analyzed by a qualified environmental professional to determine if contaminated soils are located in areas of the site that will be disturbed by construction activities. If contaminants are detected at levels that exceed regulatory thresholds for construction workers or adjacent residents, the extent of contamination shall be identified, and recommendations for a Health and Safety Plan and Soil Management Plan shall be implemented, if necessary. This work shall be performed under the oversight of the Santa Clara County Department of Environmental Health (DEH), with copies of documentation provided to the Department of Planning and Development staff. **MM HAZ-1.2:** If necessary, the Health and Safety Plan shall include appropriate protocols for working in contaminated soils. The project contractor will be responsible for the health and safety of their employees as well as for compliance with applicable local, state, and federal regulations. The Health and Safety Plan shall be submitted to the Santa Clara County DEH and Department of Planning and Development for review and approval prior to issuance of a grading permit or building permit. **(Less-than-Significant Impact with Mitigation)**
Noise	
Impact NOI-1: Within 150 feet of the adjacent single-family residential property line to the northwest, construction equipment noise would exceed the 75 dBA level specified in County Code Section B11-154.	**MM NOI-1.1:** For construction activities involving noise-producing equipment occurring within 150 feet of off-site sensitive receptors, noise attenuation measures shall be implemented to reduce construction noise to 75 dBA at the western property line (nearest single-family residential receptor). These measures shall be described in a Noise Control Plan that shall be submitted for review and approval by the County Planning and Development Department prior to issuance of any grading or building permits to ensure that construction noise levels are consistent with the standards set forth in Section B11-154 of the County Code. The Construction Noise Control Plan shall be implemented during all phases of construction and shall include, at a minimum, the following noise-control measures: • Equipment used during construction shall incorporate best available noise-control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and

	acoustically attenuating shields or shrouds). Additionally, the Noise Control Plan shall (if necessary) include use of moveable noise screens, noise blankets, or other suitable sound attenuation devices to reduce noise levels to below 75 dBA; • Impact tools used during construction shall be hydraulically or electrically powered when possible to avoid noise from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler shall be used. Mufflers can lower noise levels from the exhaust by up to approximately 10 dBA. External jackets on the tools themselves shall be used where feasible to achieve an additional reduction of five dBA. Quieter procedures, such as use of drills rather than impact tools, shall be used where feasible; and • Stationary construction noise sources (if required) shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or include other measures, to reduce noise levels to below 75 dBA (or 60 dBA if used for more than 10 days). **(Less-than-Significant Impact with Mitigation)**
Impact NOI-2: Noise from project mechanical equipment could result in noise levels at the adjacent property lines exceeding the 45 dBA limit specified in Section B11-154(b)(12) of the Noise Ordinance, which would be considered a significant impact.	**MM NOI-2.1:** A qualified acoustical consultant shall be retained to review mechanical equipment selected and determine specific noise reduction measures necessary to reduce noise to comply with the County's noise level requirements (if needed). Noise reduction measures could include, but are not limited to, selection of equipment that emits low noise levels, installation of noise barriers to block the line-of-sight between the noise source and the property lines, and locating equipment away from property lines, where feasible. A letter, prepared by the qualified acoustical consultant, shall be submitted to Department of Planning and Development prior to building permit issuance describing measures to be implemented to reduce noise levels to below 45 dBA at the property lines. **(Less-than-Significant Impact with Mitigation)**
Cumulative Impacts	
Impact C-GHG-1: The project would generate GHG emissions in excess of the Substantial Progress 2030 threshold. GHG emissions are, by their nature, cumulative. As a result, the project would also result in a cumulatively considerable	This impact would be less than significant with incorporation of MM GHG-1.1 (above). **(Less-than-Significant Impact with Mitigation)**

contribution to overall GHG emissions.	

1.4 ALTERNATIVES SUMMARY

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) identify alternatives to the project that would feasibly attain the basic objectives but avoid or substantially lessen many of the significant environmental impacts of the project, or would further reduce impacts that are considered less than significant with the incorporation of identified mitigation. The significant impacts of the project, which are all reduced to a less-than-significant level with the incorporation of mitigation measures, are identified in Table 1.3-1, above. The project alternatives are summarized below and discussed in detail in Section 8.0 Alternatives.

1.4.1 Alternatives Not Further Analyzed

1.4.1.1 *Location Alternative*

A Location Alternative in south Santa Clara County would potentially avoid the less-than-significant (with mitigation) aesthetic, biology, cultural resources, and noise impacts; but would not be likely to avoid the less-than-significant (with mitigation) hazardous materials impact because the majority of agricultural parcels in the southern Santa Clara County area would have a history of chemical use/exposure. The GHG-emissions impacts would likely be the same because other parcels located in the area would likely result in a similar level of mobile GHG emissions as the proposed project; therefore, this alternative would not avoid or substantially lessen impacts as required under the CEQA Guidelines. For these reasons, a Location Alternative was not further analyzed.

1.4.1.2 *Reduced Development Alternative*

An alternative that would reduce the size of the proposed 10,000-square-foot agricultural research building would potentially reduce employee vehicle trips, the emissions of which would make up the majority of GHG emissions from the project. However, one of the objectives of the project is consolidating research activities into a single facility in southern Santa Clara County. Most of the employees that would work on site would be relocating from other facilities operated by the project proponent. Therefore, actual reductions in vehicle trips would likely not occur because such vehicle trips are already occurring in association with other facilities. It is also possible that the consolidation of research facilities could reduce vehicle miles traveled and therefore reduce mobile emissions compared to existing operations. This alternative was rejected from further consideration because it would not meet the project objectives and would not be likely to reduce impacts.

1.4.1.3 *Project 150-Foot Setback Alternative with Smaller Structures*

The Project 150-Foot Setback Alternative with Smaller Structures would place the research building, greenhouses, and other project facilities requiring use of noise-generating equipment during construction to be located approximately 150 feet from the adjacent property line to the northwest, thereby reducing noise levels to below the County's 75 dBA limit. Operational noise from standard rooftop equipment would also likely be below the County's 45 dBA limit at this distance; therefore, both impacts would likely be reduced to a less-than-significant level (without mitigation).

This alternative would, however, necessitate reoriented, smaller structures (by at least 50 percent) given the narrow 230-foot lot width and presence of the potentially historic barn on the property, impacts to which would need to be avoided. This alternative was rejected because it would not meet

the applicant's objectives to utilize already developed areas on the site while preserving existing agricultural uses consistent with the site's Williamson Act Compatible Use Determination (Appendix C).

1.4.2 Analyzed Alternatives

1.4.2.1 *No Project - No Development Alternative*

Under the No Project – No Development Alternative, the existing uses would remain; therefore, this alternative would avoid the proposed project's less than significant (with mitigation) aesthetic, biological, cultural, GHG emissions, hazardous materials, and noise impacts, as well as all other less than significant impacts. The alternative would not, however, meet any of the proposed project objectives of consolidating seed research operations in a new, modern facility in southern Santa Clara Valley.

1.4.2.2 *Project Redesign (Solid Greenhouse Walls) Alternative*

A Project Redesign Alternative would provide for the greenhouse structures to be permanent buildings with solid walls, such that that no light would escape and no impact would occur. While this alternative would avoid the less-than-significant (with mitigation) aesthetic impact related to lighting, it would not avoid the less-than-significant (with mitigation) biological, cultural, GHG emissions, hazardous materials impacts. Construction-related air quality and noise impacts could potentially be greater due to a longer construction timeframe needed to build solid-walled structures.

This alternative would not meet the project objectives of orienting the greenhouses and research building in an appropriate north-facing direction to ensure sufficient ambient light exposure, and maximize energy efficiency of cooling systems. Further, the applicant's objectives call for limiting the covering of the greenhouses to help reduce potential seed contamination from fungus or bacteria and ensure proper regulation of temperature, humidity, and air flow inside the greenhouses; which could be compromised with more permanent walled structures. This alternative would, however, meet objectives related to consolidation of seed research into a modern facility, locating the research building and greenhouses on already developed land, and maintaining the location of the Shamrock Seed Company in southern Santa Clara Valley.

1.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines state that an EIR shall identify an environmentally superior alternative. The environmentally superior alternative would be the No Project - No Development Alternative, which would avoid all project impacts. This alternative would not, however, meet any project objectives.

The Project Redesign Alternative would be the environmentally superior alternative among the other project alternatives because it would avoid the less-than-significant (with mitigation) aesthetics impact while still maintaining some of the ability of the project applicant to meet several of their specified objectives, though at a lessened scale.

1.6 AREAS OF PUBLIC CONTROVERSY

Effects on the historic structures at 6650 Holsclaw Road due to the mass, scale, and lighting of the proposed project have been raised as a concern by members of the public. Potential on-site archaeological and tribal cultural resources impacts have been raised, as have traffic-related air quality issues.

SECTION 2.0 INTRODUCTION

2.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The County of Santa Clara, as the lead agency, has prepared this Draft EIR for the Shamrock Seed Project in compliance with CEQA and the CEQA Guidelines.

As described in CEQA Guidelines Section 15121(a), an EIR is an informational document that assesses potential environmental impacts of a proposed project, and identifies mitigation measures and alternatives to reduce or avoid adverse environmental impacts. As the CEQA lead agency for this project, the County of Santa Clara is required to consider the information in the EIR in deciding whether to approve the project. It is not the intent of an EIR to recommend either approval or denial of a project.

2.2 EIR PROCESS

2.2.1 Notice of Preparation and Scoping

In accordance with Sections 15063 and 15082 of the CEQA Guidelines, the County of Santa Clara prepared a Notice of Preparation (NOP) for this EIR. The NOP was circulated to local, state, and federal agencies on April 10, 2018. The standard 30-day comment period concluded on May 10, 2018. The NOP provided a general description of the proposed project and identified possible environmental impacts that could result from implementation of the project. Comments received on the NOP have been considered in preparation of this EIR. Appendix A of this EIR includes the NOP and comments received on the NOP.

2.2.2 Draft EIR Public Review and Comment Period

Publication of this Draft EIR will mark the beginning of a 45-day public review and comment period. During this period, the Draft EIR will be available to local, state, and federal agencies and to interested organizations and individuals for review. Notice of availability of this Draft EIR will be sent directly to every agency, person, and organization that commented on the NOP. Written comments concerning the environmental review contained in this Draft EIR during the 45-day public review period should be sent to:

County of Santa Clara Planning Division
Attention: Robert Salisbury
County Government Center
70 West Hedding Street, East Wing, 7th Floor
San Jose, CA 95110
(408) 299-5785
robert.salisbury@pln.sccgov.org

2.3 FINAL EIR/RESPONSES TO COMMENTS

Following the conclusion of the 45-day public review period, the County of Santa Clara will prepare a Final EIR in conformance with CEQA Guidelines Section 15132. The Final EIR will consist of:

- List of individuals and agencies commenting on the DEIR;
- Responses to comments received on the DEIR, in accordance with CEQA Guidelines (Section 15088);
- Revisions to the Draft EIR text, as necessary; and
- Copies of letters received on the DEIR.

Section 15091(a) of the CEQA Guidelines stipulates that no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes written findings. If the lead agency approves a project despite its potential to result in significant adverse environmental impacts that cannot be mitigated to a less-than-significant level, the agency must state the reasons for its action in writing. This Statement of Overriding Considerations must be included in the record of project approval.

2.3.1 Notice of Determination

If the project is approved, the County of Santa Clara will file a Notice of Determination (NOD), which will be available for public inspection and posted within 24 hours of receipt at the County Clerk's Office for 30 days. The filing of the NOD starts a 30-day statute of limitations on court challenges to the County's CEQA compliance with respect to the project approval under Public Resources Code Section 21167.

SECTION 3.0 PROJECT INFORMATION AND DESCRIPTION

3.1 PROJECT LOCATION

The project (Shamrock Seed Company) is located at 6640 Holsclaw Road on two legal parcels under a single assessor's parcel number (841-49-002) in an unincorporated area of Santa Clara County near the City of Gilroy. The project location is shown in Figure 3.2-1 and Figure 3.2-2. As shown in Figure 3.2-3, the two project parcels (Parcel 1 and Parcel 2) are irregularly shaped and aggregate to approximately 22-acres in size, with the proposed project site occupying a 3.5-acre portion of the larger parcel (Parcel 1), immediately adjacent to and northwest of Parcel 2, and fronting Holsclaw Road. The project site currently contains four existing greenhouse structures, as well as several hoop houses and temporary pollination cage structures, a modular office, a barn, and an equipment shed. The remainder of the site is under active agricultural cultivation.

An abandoned bend of Llagas Creek (the creek was channelized to a manmade bed in the 1950s) is located across Holsclaw Road. It holds water seasonally and contains riparian vegetation. This bend drains to the channelized portion of Llagas Creek, which lies approximately 700 feet northwest of the project site.

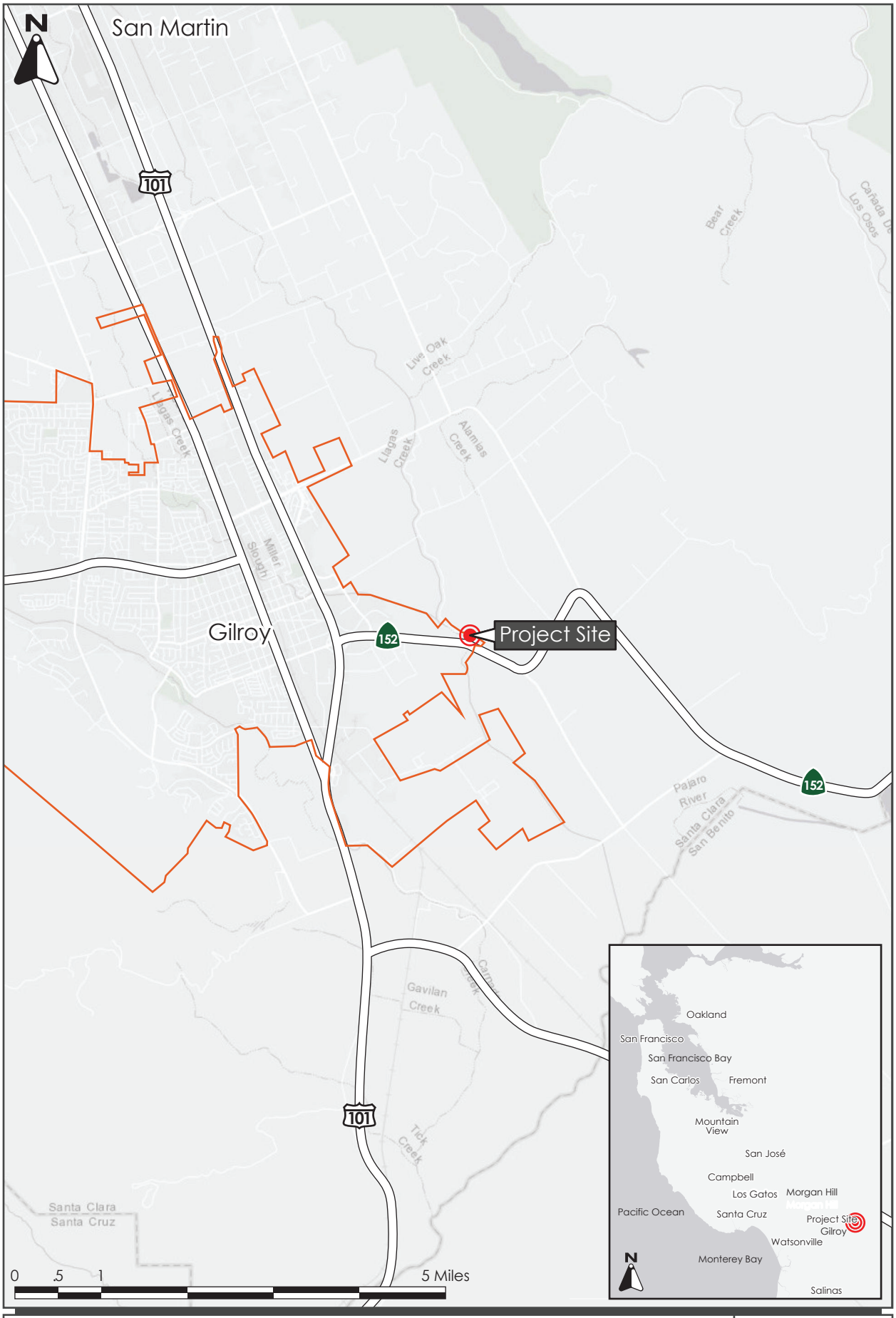
3.2 PROJECT DESCRIPTION

The project proponent has applied to the County for an Architecture and Site Approval (ASA) and Grading Approval to demolish several existing greenhouse structures and to construct a new agricultural research building, parking lot, and two new greenhouse structures. The existing research facility was granted ASA approval in 2007 for its current configuration and uses.

3.2.1 Main Structures

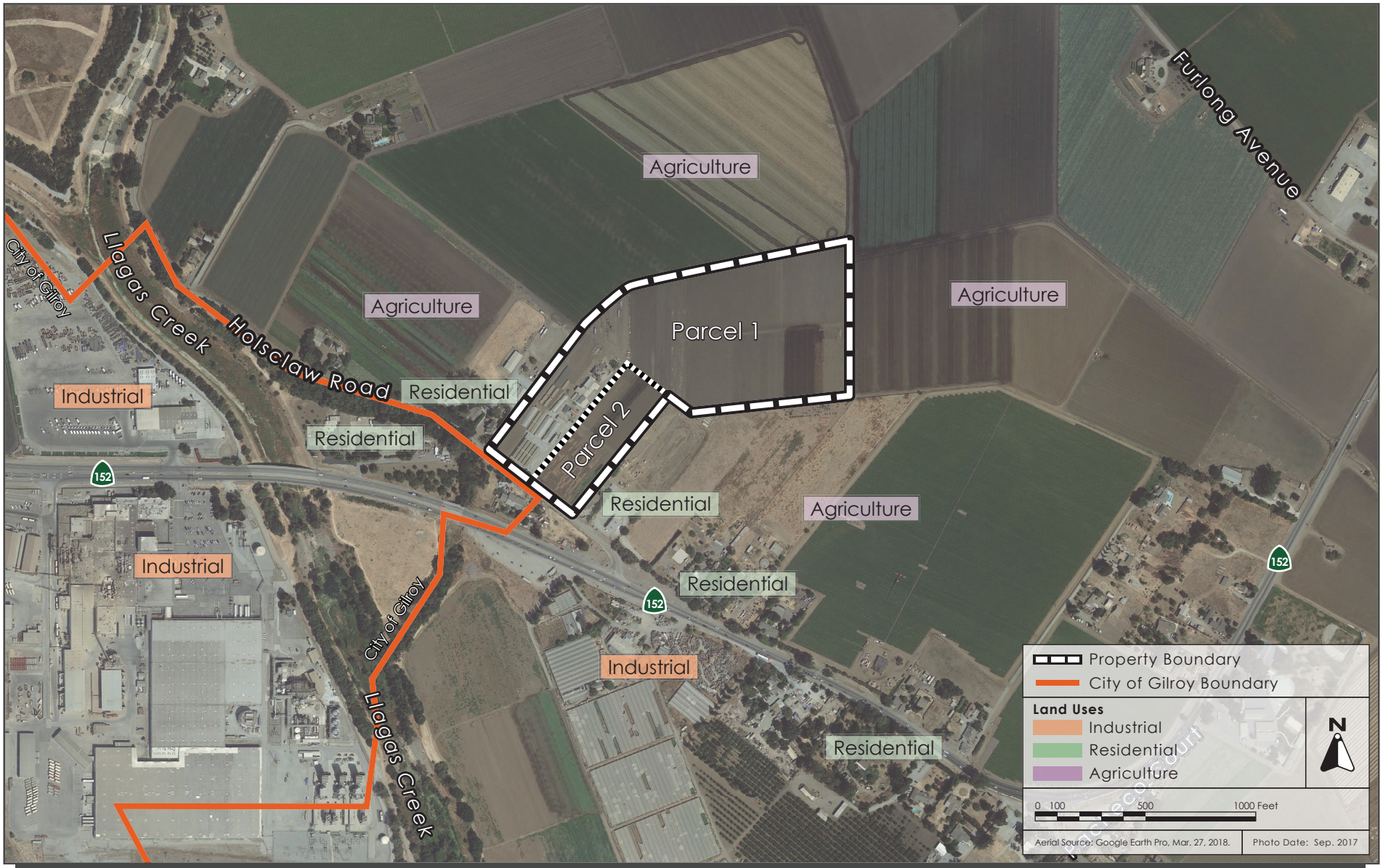
The project proposes the demolition of the existing greenhouses (the modular office structure, barn, and equipment shed would remain) and construction of a new 10,000-square-foot agricultural research building, as shown in Figure 3.2-4. The agricultural research building would include offices, laboratory area, and conference rooms to support the agricultural research use. The 20-foot-tall structure would have metal walls and a metal roof, and would front Holsclaw Road, as shown in Figure 3.2-5. A 31-space parking lot with covered trash enclosure would be located along the front and east side of the agricultural research building. Parking lot lighting and building lighting are also proposed.

Two new sets of greenhouse structures (measuring approximately 100 feet by 130 feet, and 85 feet by 300 feet) would also be constructed at the project site. These two sets of greenhouse structures would be up to 22 feet tall (as shown in Figure 3.2-6), and composed of a translucent material, to allow sunlight to enter during daylight hours. The greenhouses would house drip irrigation growing systems and would be internally illuminated during a portion of non-daylight hours. A 90-square-foot electrical utility building and on-site fire protection system, including a 40,000-gallon, above-ground water tank, would also be constructed.

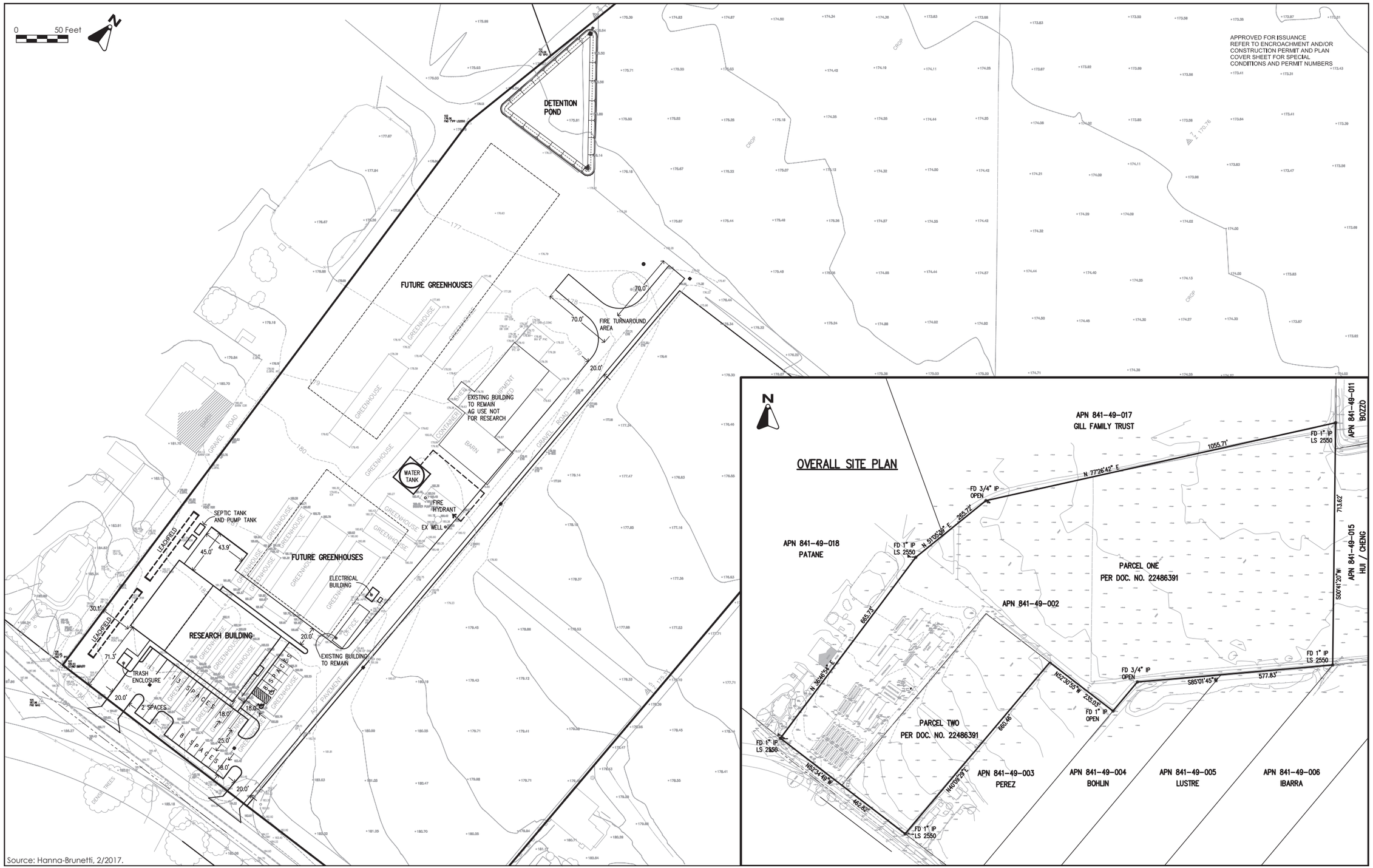


REGIONAL MAP | FIGURE 3.2-1

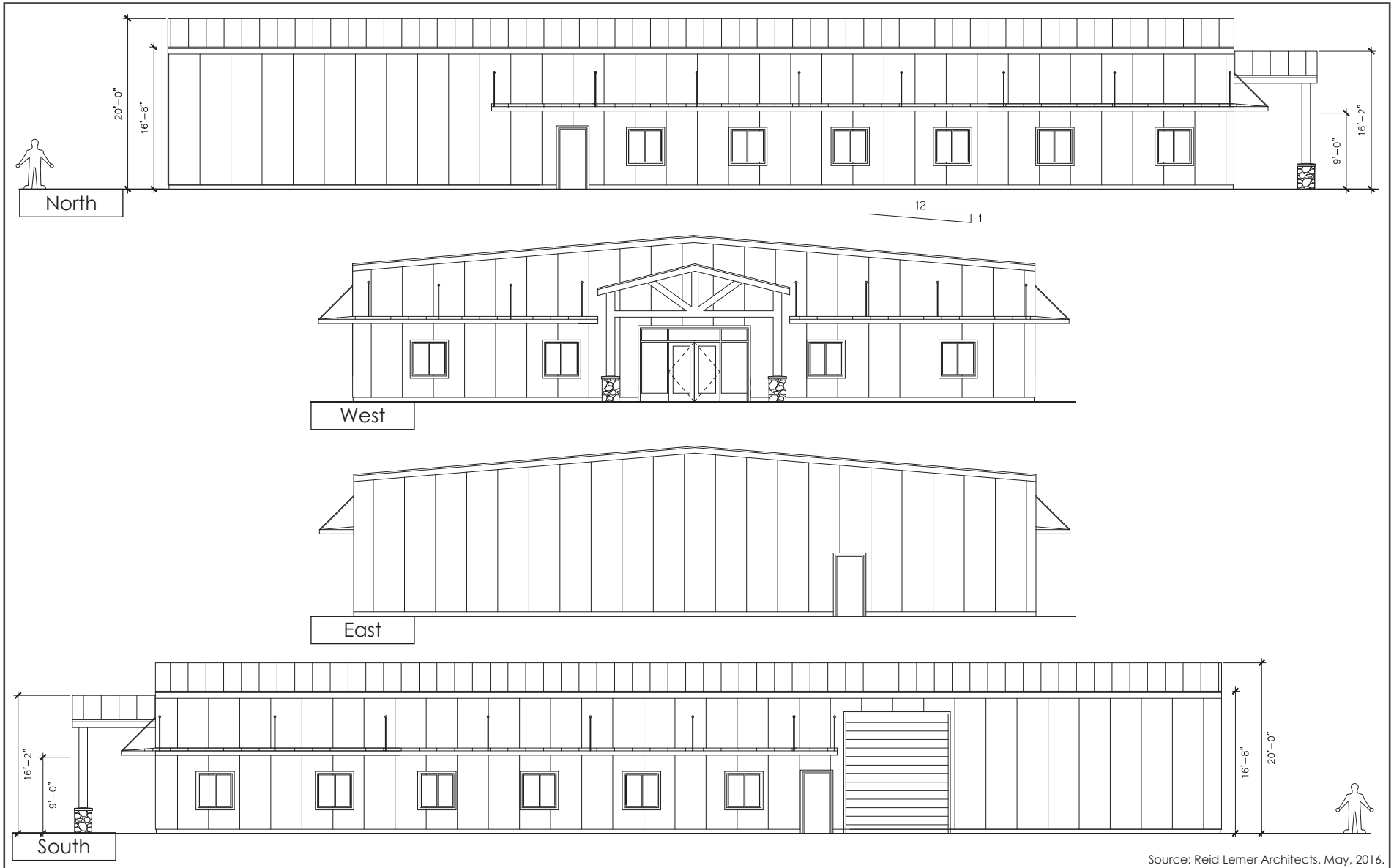
VICINITY MAP | FIGURE 3.2-2



AERIAL PHOTOGRAPH AND SURROUNDING LAND USES | FIGURE 3.2-3



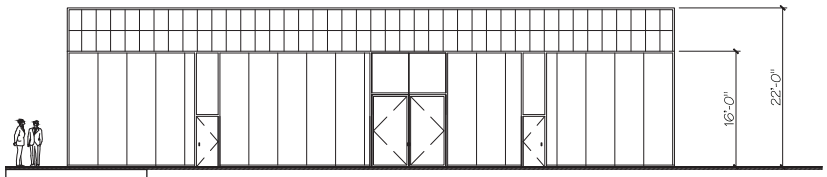
SITE PLAN | FIGURE 3.2-4



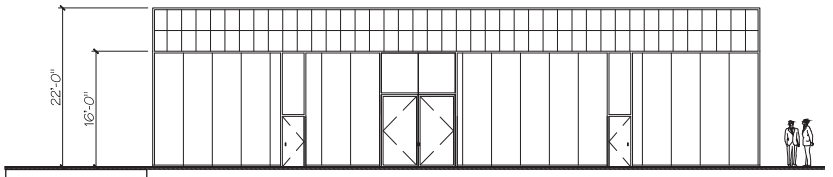
Source: Reid Lerner Architects. May, 2016.

RESEARCH BUILDING ELEVATIONS

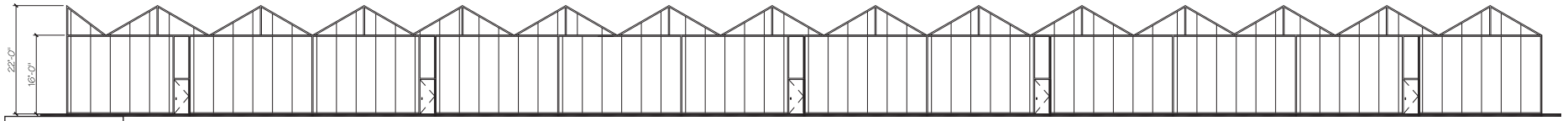
FIGURE 3.2-5



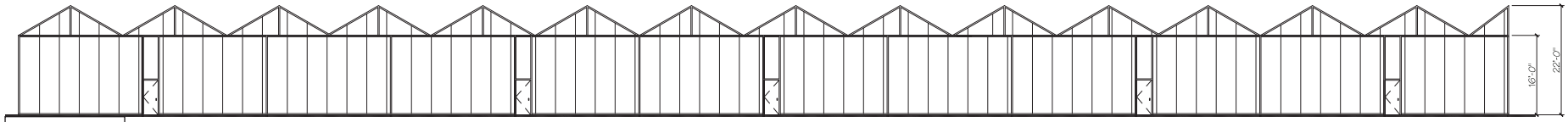
North



South



East



West

Source: Reid Lerner Architects. May, 2016.

GREENHOUSE ELEVATIONS

FIGURE 3.2-6

3.2.2 Additional Site Improvements

There is an existing six-foot-high chain-link fence with green plastic slats enclosing a portion of the project site, which will remain. The existing 20-foot-wide access driveway would be paved with asphalt from Holsclaw Road to the parking lot and would continue down the east side of the site where it would transition to an aggregate base rock driveway. A fire truck turnaround area would be located at the rear of the site at the end of the driveway.

Stormwater from the project site would drain to an earthen ditch along the project driveway along the east property line, which would connect to a proposed bioretention pond to collect and treat the project site's stormwater.

An existing septic system is located behind the existing barn. It accommodates the existing on-site uses. This system would be abandoned to County standards under permit from the Santa Clara County Department of Environmental Health (DEH). A new on-site septic system (designed to accommodate approximately 375 gallons per day) would serve the agricultural research facility. The new system would be located near the front of the project site, adjacent to the western property line.

There are three existing trees in the project site. Two are located along the Holsclaw Road frontage within the public right-of-way and one is located at the rear of the project site near the proposed fire turnaround area. These trees would remain as part of the project. Proposed landscaping includes trees and shrubs primarily along the project frontage, around the trash enclosure, and along the first 300 feet of the north property line, as shown in Figure 3.3-1.

3.2.3 Hours of Operation and Staffing

The agricultural research building would regularly operate between 6:00 a.m. and 6:00 p.m., with occasional work conducted outside of regular business hours by limited staff on an as-needed basis. Greenhouses would be illuminated at varying times of day, for an average of 8 hours per day depending on the season, in order to provide 16 continuous hours of light each day (one photoperiodic plant cycle).

The proposed modifications to the existing agricultural research facility and greenhouses are intended to consolidate existing research facilities and to provide the environment necessary to conduct agricultural research activities. The proposed project would increase the number of employees at the site by approximately 20 people, for a total of up to approximately 25 on-site employees. Work schedules for the employees would vary given the nature of research activities. Up to 10 additional part-time, seasonal staff would continue to be employed during harvest periods or as needed (similar to current operations).

3.2.4 Construction

The proposed project would be constructed in two phases; with site preparation and the agricultural research building being constructed in the first year, and the greenhouses being constructed in the second year. Phase I would take approximately nine to 12 months to complete, and Phase II would take approximately six months to complete.

Approximately 1,245 cubic yards of grading are associated with the proposed project, including 1,136 cubic yards of cut and 109 cubic yards of fill, primarily associated with construction of the new building footprints, parking area, and bio-retention facility. The maximum depth of excavation would be two feet for construction of the research building, greenhouses, and bioretention pond, and five feet for the construction of the septic system leach field.

3.2.5 Green Building Measures

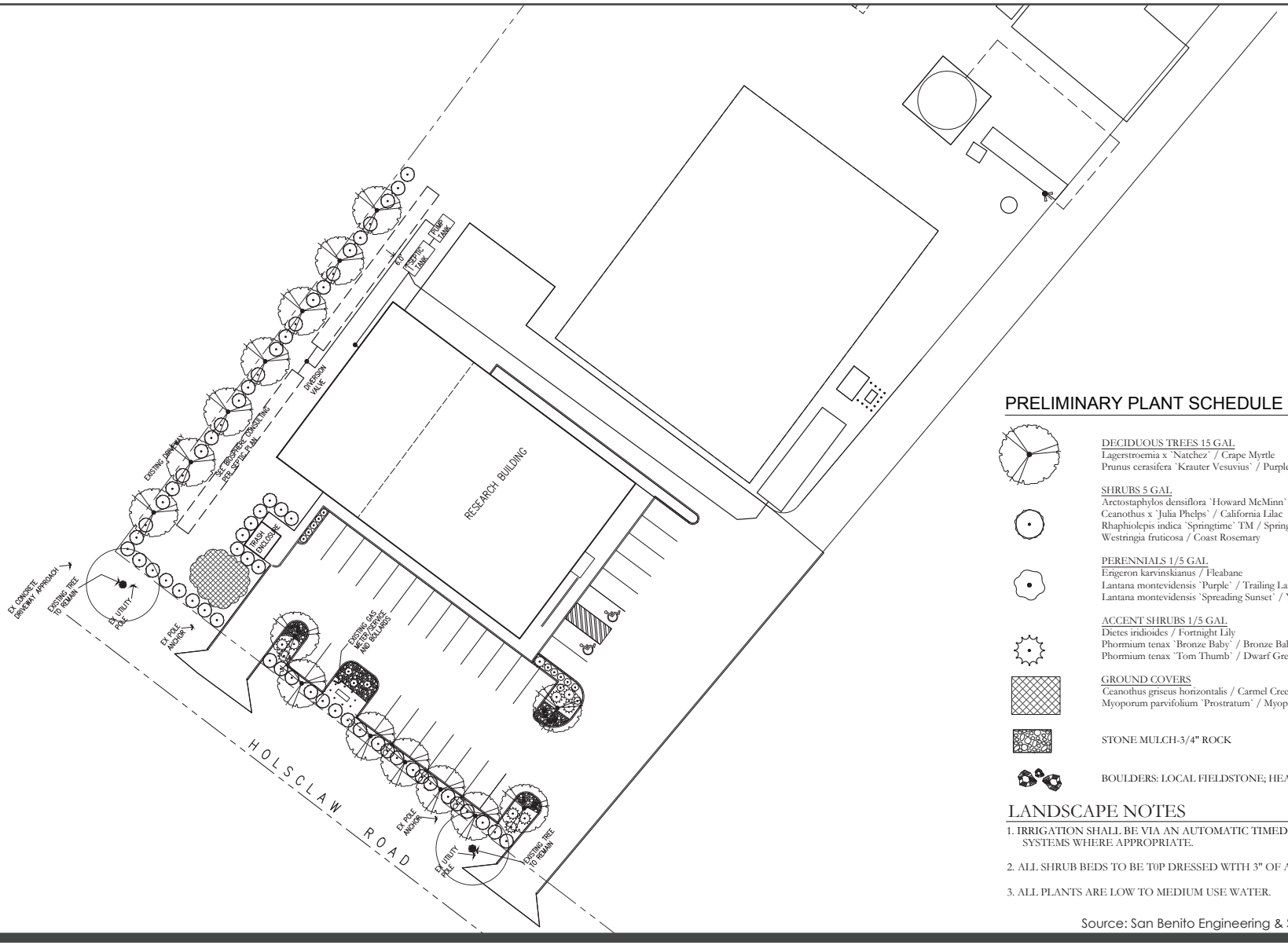
The proposed project would be constructed in accordance with the California Building Standards Code (CBC) and California Green Building Standards Code (CalGreen), as amended and adopted by the County, which both include requirements to minimize wasteful energy consumption. The project would implement the following green-building measures and design features:

- Solar-ready roof for the research building;
- Salvage or recycling of at least 50 percent of construction waste;
- Water-efficient plumbing fixtures, low-water landscaping, and water-efficient irrigation;
- On-site stormwater (bio-retention) basin; and
- Energy-efficient lighting fixtures.

3.3 PROJECT OBJECTIVES

Pursuant to CEQA Guidelines Section 15124, the EIR must identify the objectives sought by the proposed project. The applicant's objectives for the project are as follows:

- Modernize existing research facility with new technology to stay competitive in the agricultural research industry;
- Modernize existing greenhouses to provide appropriate environment for plant research and breeding;
- Consolidate research activities into a single facility in southern Santa Clara County that will serve its production facilities located in California, the Eastern United States, Mexico, and Central America;
- Locate the research building and greenhouses on already developed land to preserve the remainder of the site for agricultural production;
- Configure greenhouses and the research building in an appropriate north-facing direction to ensure sufficient ambient light exposure, maximize energy efficiency of cooling systems, and limit dust-related issues created by wind;
- Provide artificial light in greenhouses to supplement the shortage of ambient light during the day providing the required plant light period of 16 hours;
- Limit the covering of the greenhouses to help reduce potential seed contamination from fungus or bacteria and ensure proper regulation of temperature, humidity, and air flow inside the greenhouses; and
- Maintain the location of the Shamrock Seed Company in southern Santa Clara Valley.



PRELIMINARY PLANT SCHEDULE

DECIDUOUS TREES 15 GAL
Lagerstroemia x `Natchez` / Crape Myrtle
Prunus cerasifera `Krauter Vesuvius` / Purple Leaf Plum

SHRUBS 5 GAL
Arctostaphylos densiflora `Howard McMinn` / Howard McMinn Manzanita
Ceanothus x `Julia Phelps` / California Lilac
Rhaphiolepis indica `Springtime` TM / Springtime Indian Hawthorne
Westringia fruticosa / Coast Rosemary

PERENNIALS 1/5 GAL
Erigeron karvinskianus / Fleabane
Lantana montevidensis `Purple` / Trailing Lantana
Lantana montevidensis `Spreading Sunset` / Yellow Trailing Lantana

ACCENT SHRUBS 1/5 GAL
Dietes iridioides / Fortnight Lily
Phormium tenax `Bronze Baby` / Bronze Baby New Zealand Flax
Phormium tenax `Tom Thumb` / Dwarf Green Flax

GROUND COVERS
Ceanothus griseus horizontalis / Carmel Creeper
Myoporum parvifolium `Prostratum` / Myoporum

STONE MULCH-3/4" ROCK

BOULDERS: LOCAL FIELDSTONE; HEADSIZE TO 2' DIAMETER

LANDSCAPE NOTES

1. IRRIGATION SHALL BE VIA AN AUTOMATIC TIMED SYSTEM UTILIZING DRIP SYSTEMS WHERE APPROPRIATE.

2. ALL SHRUB BEDS TO BE T0P DRESSED WITH 3" OF APPROVED BARK MULCH.

3. ALL PLANTS ARE LOW TO MEDIUM USE WATER.

Source: San Benito Engineering & Surveying, Inc. March, 2018.

LANDSCAPE PLAN

FIGURE 3.3-1

3.3.1 GENERAL PLAN AND ZONING DESIGNATIONS

The project site has a General Plan designation of Agriculture Large Scale and is zoned Exclusive Agriculture, with a 40-acre combining district (A-40ac.). The site is within the City of Gilroy's sphere of influence.

3.3.2 REQUIRED PERMITS AND APPROVALS

The existing agriculture research facility was granted Architecture and Site Approval (ASA) approval by the County in 2007 for its current configuration and uses. A new ASA and Grading Approval from the County are required for the proposed project.

SECTION 4.0 ENVIRONMENTAL IMPACTS AND MITIGATION

This section presents the discussion of impacts related to the following environmental subjects in their respective subsections:

4.1	Aesthetics	4.9	Hazards and Hazardous Materials
4.2	Agricultural and Forestry Resources	4.10	Hydrology and Water Quality
4.3	Air Quality	4.11	Land Use and Planning
4.4	Biological Resources	4.12	Noise and Vibration
4.5	Cultural and Tribal Cultural Resources	4.13	Population and Housing
4.6	Energy	4.14	Public Services and Recreation
4.7	Geology, Soils, and Minerals	4.15	Transportation/Traffic
4.8	Greenhouse Gas Emissions	4.16	Utilities and Service Systems

The discussion for each environmental subject includes the following subsections:

ENVIRONMENTAL SETTING

This subsection: 1) provides a brief overview of relevant plans, policies, and regulations that compose the regulatory framework for the project and 2) describes the existing, physical environmental conditions at the project site and in the surrounding area, as relevant.

Baseline for Determining Significant Environmental Impacts

In accordance with Section 15125 of the CEQA Guidelines, the affected environment (referred to in the CEQA Guidelines as the "environmental setting") is characterized by the physical environmental conditions that exist in the vicinity of the project when the Notice of Preparation (NOP) is published, and normally constitutes the baseline physical condition against which project impacts are compared to determine whether an impact is significant. For this EIR, existing conditions are used as the baseline against which the impacts of the project are compared for the purpose of determining significant impacts. Existing conditions at the site consist of four existing greenhouse structures, as well as several hoop houses and temporary pollination cage structures, a modular office, a barn, and an equipment shed. The remainder of the site is under active agricultural cultivation. An abandoned bend of Llagas Creek (the creek was channelized to a manmade bed in the 1950s) is located across Holsclaw Road.[1]

IMPACTS

This subsection: 1) includes thresholds of significance for determining impacts, 2) discusses the project's consistency with those thresholds, and 3) discusses the project's consistency with applicable plans, which is a specific CEQA requirement. For significant impacts, feasible mitigation measures are identified that would minimize, avoid, or eliminate a significant impact (CEQA Guidelines Section 15370). Each impact is numbered using an alphanumeric system that identifies the environmental issue. For example, **Impact HAZ-1** denotes the first potentially significant impact

[1] This section of the creek was abandoned in the 1950s when Llagas Creek was rechannelized in its current location approximately 700 feet west of the property.

discussed in the Hazards and Hazardous Materials section. Mitigation measures are also numbered to correspond to the impact they address. For example, **MM NOI-2.3** refers to the third mitigation measure for the second impact in the Noise section.

POLICIES CONSISTENCY ANALYSIS

CEQA Guidelines Section 15125(d) requires that an EIR discuss any inconsistencies between the proposed project and applicable policies and plans. Relevant state and regional plans, such as applicable air quality attainment plans, water quality control plans, regional transportation plans, are discussed within the appropriate resources section (e.g., Air Quality, Hydrology and Water Quality, Transportation, etc.). The project's consistency with the County's General Plan policies are discussed below in Table 3.3-1.

Table 3.3-1: Policies Consistency Analysis

Policy	Project Consistent?	Discussion
Aesthetics		
C-RC 57: The scenic and aesthetic qualities of both the natural and built environments should be preserved and enhanced for their importance to the overall quality of life for Santa Clara County.	Yes	The project meets required setbacks and height limits, and would go through the ASA process, which further reviews and conditions projects to ensure harmony with the surrounding area through consideration of site configuration and design, consistent with policy C-RC 57.
Agriculture		
C-EC(i) 13:Promote the continuation of agriculture and related employment as an active part of a diversified economy.	Yes	General Plan calls for the long-term support of diverse agricultural uses in the County. The proposed project would accomplish this by maintaining existing agricultural uses (row crops and greenhouses) and diversifying with additional agricultural-related uses (seed research). The project is also a compatible use under the site's Williamson Act contract; thus, the project is consistent with relevant General Plan policies.
C-RC 40: Long term land use stability and dependability to preserve agriculture shall be maintained and enhanced by the following general means: limiting the loss of valuable farmland from unnecessary and/or premature urban expansion and development; regulating non-agricultural uses in agricultural areas, and their intensity and impacts on adjacent lands; maintaining agriculturally viable parcel sizes; and minimizing conflicts between adjacent agricultural and non-agricultural land uses, through such means as right-to-farm legislation.	Yes	
C-RC 57: Agriculture shall be encouraged and prime agricultural lands retained for their value to the overall economy and quality of life of Santa Clara County, including local food production capability; productive use of lands not intended or suitable for urban development; and preservation	Yes	

of a diminishing natural resource, prime agricultural soils.		
R-RC 65: The long term economic viability of agricultural activities shall be maintained and enhanced by promoting improved markets for locally-grown products; Williamson Act provisions for property tax relief; use of innovative, more cost-efficient growing techniques; review of the economic impacts of regulation and other means of enhancing competitiveness; and adequate agricultural worker housing	Yes	
SC 14.0: Agriculture should be continued and supported since it contributes to the local economy and helps to delineate urban boundaries. Among other benefits, it is the most productive use for land which is not immediately planned for urban development. More effective methods of support and preservation should be developed. The County and the Cities should reaffirm their commitment to long-term maintenance of agricultural land uses and to agriculture as an economic enterprise in South County.	Yes	
SC 14.1: The County and the Cities should take positive action to encourage agriculture by supporting policies favorable to agriculture.	Yes	
SC 14.6: The expansion of the "uses compatible with agriculture" category in County zoning ordinances and Williamson Act policies should be approved only when such additional uses will clearly contribute to the long-term viability of agriculture	Yes	
Cultural Resources		
C-RC 49: Cultural heritage resources within Santa Clara County should be preserved, restored wherever possible, and commemorated as appropriate for their scientific, cultural, historic, and place values.	Yes	The project would not impact historic resources or cause the loss of a resource, consistent with General Plan policies C-RC 49, C-RC 52, and C-RC 81. MM CUL-1.1 through MM CUL-1.3, and MM CUL-2.1 would be implemented to avoid impacts, consistent with Policy R-RC 86. A historic report (including field reconnaissance) was prepared for the project, consistent with Policy R-RC 88.
C-RC 52: Prevention of unnecessary losses to heritage resources should be ensured as much as possible through adequate ordinances, regulations, and standard review procedures. Mitigation efforts, such as relocation of the resource, should be employed where feasible when projects will have significant adverse impact upon heritage resources.	Yes	
R-RC 81: Heritage resources within rural unincorporated areas shall be preserved, restored wherever possible, and commemorated as	Yes	

appropriate for their scientific, cultural, historic, and place values.		
R-RC 88: For projects receiving environmental assessment, expert opinions and field reconnaissance may be required if needed at the applicant's expense to determine the presence, extent, and condition of suspected heritage resources and the likely impact of the project upon the resources.	Yes	
Energy		
C-RC 77: Energy efficiency and conservation efforts in the transportation, industrial, commercial, residential, agricultural, and public sectors shall be encouraged at the local, county (sub-regional), and regional level.	Yes	The proposed project would be consistent with applicable General Plan policies to reduce energy consumption and waste by complying with Title 24 and CalGreen requirements.
C-RC 78: The objectives of the state energy plan should be implemented at the local and regional level through an overall strategy consisting of: a) Reducing transportation energy demand and oil-dependency; b) Conserving energy in residential, commercial, agricultural, and industrial sectors; and c) Increasing consumer and general public awareness through education.	Yes	
C-RC 83: Industrial and agricultural processes should be modified wherever feasible to take advantage of energy savings, to reduce operational costs, and enhance competitiveness.	Yes	
Geology		
R-RC 13: Sedimentation and erosion shall be minimized through controls over development, including grading, quarrying, vegetation removal, road and bridge construction, and other uses which pose such a threat to water quality.	Yes	To address General Plan Policy R-RC 13, the project would implement a SWPPP during construction, as well as post-construction stormwater treatment measures. The County Geologist would review the project, as appropriate.
R-HS 21: Proposals involving potential geologic or seismic hazards shall be referred to the County Geologist for review and recommendations.	Yes	
Hazardous Materials		
C-HS 46: Hazardous materials, whether commercial, industrial, agricultural, or residential in character, should not be disposed of in any wastewater or on-site wastewater treatment system.	Yes	The project would dispose of hazardous materials consistent with applicable regulatory requirements (and not in wastewater facilities).
Hydrology and Water Quality		
R-RC 13: Sedimentation and erosion shall be minimized through controls over development, including grading, quarrying, vegetation removal,	Yes	The project would be required to comply with applicable federal, state, regional, and local water

road and bridge construction, and other uses which pose such a threat to water quality.		quality and stormwater control standards and permits, as well as all regulations pertaining to flood zones. In doing so, the project would be consistent with applicable General Plan policies regarding hydrology and water quality. The project would also not discharge directly to Llagas Creek (which is across Holsclaw Road to the west) or any riparian habitat, consistent with Policy R-LU 125. Flows from the project site generally travel to the southeast, away from the creek.
R-LU 125: In vicinity of Llagas Creek, particularly in the areas of highly permeable soils, commercial uses should be situated and designed to prevent any form of harmful waste discharge in the creek. The value of the riparian habitat and the beauty of the creek should be maintained and enhanced.	Yes	
R-RC 8: The strategies for assuring water quantity and quality for the rural unincorporated areas shall include: 1. Require adequate water quantity and quality as a pre-condition of development approval, 2. Reduce the water quality impacts of rural land use and development, 3. Develop comprehensive watershed management plans.	Yes	
R-RC 10: For lands designated as Resource Conservation Areas (Hillsides, Ranchlands, Agriculture, and Baylands) and for Rural Residential areas, water resources shall be protected by encouraging land uses compatible and consistent with maintenance of surface and ground water quality. Uses that pose a significant potential hazard to water quality should not be allowed unless the potential impacts can be adequately mitigated. The amounts of impervious surfaces in the immediate vicinity of water courses or reservoirs should be minimized.	Yes	
Noise		
C-HS 24: Environments for all residents of the County should be free from noise that jeopardizes their health and well-being should be provided through measures which promote noise and land use compatibility.	Yes	Mitigation measures included in the project would ensure consistency with General Plan policies.
R-HS 1: Significant noise impacts from either public or private projects should be mitigated.	Yes	
R-HS 2: The County should seek opportunities to minimize noise conflicts in the rural areas	Yes	
Public Services		
R-HS 12: Proposals shall be conditioned as necessary to conform with County General Plan policies on public safety. Projects which cannot be conditioned to avoid hazards shall be conditioned to reduce the risks associated with natural hazards to an acceptable level or shall be denied.	Yes	The proposed project would be reviewed by County departments for emergency access and vehicle turning and conditioned as needed to ensure public safety.
Utilities and Service Systems		
R-TR 11: New development which would significantly impact private or public roads, should be allowed only when safety hazards and roadway	Yes	The proposed project would be consistent with the County's General Plan policies by

deterioration will be mitigated to a less-than-significant level.		providing an on-site water source and septic system (installed per DEH environmental requirements). Further, the new drip irrigation systems in the greenhouses would use water more efficiently as compared to the outdoor row crops and older existing greenhouses and hoop-houses, per C-RC 12
C-RC 12: More efficient use of water for agricultural irrigation and industrial processes should be promoted through improved technology and practices.	Yes	
R-HS 22: Adequate access and water supplies for fire safety shall be required for all new development, including building sites, subdivision, and clustered development.	Yes	
R-RC 9: Development in rural unincorporated areas shall be required to demonstrate adequate quantity and quality of water supply prior to receiving development approval.	Yes	
R-HS 42: All new conventional on-site wastewater treatment systems shall be located only in areas where there is reasonable assurance that they will function effectively over a long period, they can be designed to have a minimum negative impact on the environment, and they will not contaminate wells, or surface and groundwater supplies.	Yes	

Important Note to the Reader

The California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District,* 62 Cal. 4th 369 (2015) *(BIA v. BAAQMD)* confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, the evaluation of the significance of project impacts under CEQA in the following sections focuses on impacts of the project on the environment, including whether a project may exacerbate existing environmental hazards.

The County of Santa Clara has policies that address existing conditions affecting a proposed project, which are also discussed in this EIR. This is consistent with one of the primary objectives of CEQA, which is to provide objective information to decision-makers and the public. The CEQA Guidelines and the courts are clear that a CEQA analysis may include information of interest even if such information is not an environmental impact as defined by CEQA.

Therefore, in addition to describing the impacts of the project on the environment, this EIR will discuss operational issues as they relate to County policies. Such examples include, but are not limited to, locating a project near sources of air emissions that can pose a health risk to project personnel, in a floodplain, geologic hazard zone, high noise environment, or on/adjacent to sites involving hazardous substances.

4.1 AESTHETICS

The lighting discussion within this section is based on the Lighting Technical Memorandum prepared by Michael Baker International and dated June 2018. The memorandum is included with this EIR as Appendix B.

4.1.1 Environmental Setting

4.1.1.1 *Regulatory Framework*

State

Scenic Highways Program

The California Scenic Highway Program is managed by the California Department of Transportation (Caltrans). The program is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The project site is located approximately 200 feet north of SR 152; however, this section of the state route is neither designated, nor eligible to be designated, as a State Scenic Highway.

Guidelines for Architecture and Site Approval

Architecture and Site Approval (ASA) is a procedure established by the County of Santa Clara Zoning Ordinance to review the quality of site and architectural design associated with proposed projects. Although the County Guidelines for Architecture and Site Approval (page 10) do not contain any standards for *interior* lighting, they do include a design standard related to *external* lighting, which provides:

> *External lighting, when used, should be subdued. It should enhance building design and landscaping, as well as provide for safety and security. It should not create glare for occupants, neighboring properties or streets. Lighting fixtures should be durable and compatible with building design and landscaping. Tall fixtures that illuminate large areas should be avoided. Not allowed are festooned or naked bulb lighting, or flashing bulb lighting. Energy conservation should be given consideration when planning the amount and type of lighting. High crime areas should be well lit.*

Regional Parks, Trails, and Scenic Highways Plan Map

The Santa Clara County Regional Parks, Trails, and Scenic Highways Plan Map (part of the County's General Plan) shows the location of regional parks, trails, and scenic highways. It provides information regarding the current status and future plans for the features. The project is not located adjacent to a scenic highway or trail.[2]

[2] Santa Clara County General Plan. Regional Parks and Scenic Highways. Accessed May 3, 2018. https://www.sccgov.org/sites/dpd/DocsForms/Documents/GP_Parks_ScenicRoads.pdf

4.1.1.2 *Existing Conditions*

Aesthetics

Project Site

The project site is flat with generally open views to adjacent sites. The land is occupied by agricultural-related uses that are rural in character, as shown in Photograph 1. Permanent structures on the project site include a barn (constructed in the 1890s and potentially eligible for the California Register of Historic Resources [CRHR], as described further in Section 4.5 Cultural Resources and shown in Photograph 2), a small office trailer, and a water tank. The remainder of the project site consists of temporary greenhouses, hoop house structures, and cultivated fields. There are limited trees and ornamental vegetation at the project site. A metal chain-link fence with green plastic slats encloses a portion of the site along Holsclaw Road, as shown in Photographs 3 and 4. A gravel access road extends from Holsclaw Road northeast to the interior of the site.

Surrounding Area

The project site is surrounded by agricultural uses to the north and east, with rural residential uses to the northwest, southwest, and southeast. The residences are one- and two-stories tall, as shown in Photographs 5 through 7. The surrounding area is rural-residential in character with large cultivated lots surrounding one or more residential structures that generally face Holsclaw Road. Trees are present in the area around the residential structures.

The structure immediately adjacent to the northwest of the project site at 6650 Holsclaw Road (shown in Photograph 5) is listed on the Santa Clara County Heritage Resource Inventory. The property is known as the Edwin Willson Ranch and includes a residence and a barn. The property is eligible for listing on the National Register of Historic Places (NRHP) as a significant representation of the agricultural development of the region, with the main house also being a distinctive example of Queen Anne Victorian architecture. The on-site barn contributes to the historic significance of the residence. Other structures in the surrounding area are primarily newer single-family residences without historic merit, and agricultural-related storage buildings of metal or wood construction.

Lighting

Project Site

A lighting analysis was conducted for the proposed project (included as Appendix B). On April 5, 2018, the existing lighting levels on-site were measured at least one hour after sunset using a light meter. The results of the on-site light measurements are described below.

Existing on-site lighting emanates from two existing greenhouses, internally illuminated with high-pressure sodium and compact fluorescent lights. The existing lighting is used for a similar number of hours per day as the proposed lighting would be used. Greenhouse 1 is approximately 3,000 square feet in size and is illuminated with twelve 400-watt lights mounted approximately nine feet above grade. Greenhouse 2 is approximately 2,000 square feet and is illuminated with nine 32-watt compact fluorescent lights mounted at nine feet above grade. The total existing lighting is approximately 5,088 watts and 507,000 lumens for both greenhouses.

Photograph 1: The project site from Holsclaw Road, facing north

Photograph 2: Near view of the existing on-site barn, facing west

Photograph 3: View down Holsclaw Road with the project site on the left, facing southeast

Photograph 4: Fallow field and greenhouse structures at the project site with the adjacent single-family residence and barn at 6650 Holsclaw Road on the left, facing north

Photograph 5: Single-family residence at 6650 Holsclaw Road immediately adjacent to the northwest of the project site, facing north

Photograph 6: Single-family residence across Holsclaw Road to the southwest of the project site, facing west

Photograph 7: Single-family residence and metal storage building immediately adjacent to the southeast of the project site, facing east

Photograph 8: Vegetated abandoned bend of Llagas Creek southwest of the project site across Holsclaw Road, facing west

The existing greenhouse lighting results in less than 0.05 footcandle [fc] of horizontal illuminance. The existing greenhouse lighting had a maximum vertical illuminance at the northwest property edge of 0.2 fc at 30 feet in the air. The average value was 0.02 fc over the entire northwest edge of the site. Additionally, no measurable cloud level illumination (less than 0.001 fc) was present, indicating almost no uplight or sky glow (as described in Section 4.1.2.1 below). Measureable sources of glare are not present at the project site, as stated in the lighting analysis in Appendix B.

Surrounding Area

Existing night time lighting levels in the project vicinity are relatively low given the rural/agricultural nature of the project site. There are no street lights on Holsclaw Road. Lighting in the area generally emanates from residential outdoor security light fixtures. There are other illuminated greenhouses in the vicinity, the nearest being located at 7240 Holsclaw Road (0.75 mile north of the project site). These light sources, along with sky glow from urban areas (e.g., cities of Gilroy and San Jose), influence the existing sky glow condition in the project vicinity. Measurable off-site sources of glare are not present.

4.1.2 Aesthetic Impacts

4.1.2.1 *Thresholds of Significance*

For the purposes of this EIR, an aesthetic impact is 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 surroundings; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Additional County Lighting Thresholds

Santa Clara County does not currently have any specific ordinances or codes that specifically address lighting levels that would apply to the proposed project.[3] For the purposes of this project, the effect on the low light nature of the area is the primary concern. The determination of whether the proposed project would result in a significant environmental impact under CEQA calls for careful judgment by the County, based on scientific and factual data (which is discussed in further detail in Appendix B). As such, in addition to the significance standards set forth above, the County will consider impacts to be significant if the following light and glare thresholds are exceeded:

> **Horizontal and Vertical Illuminance:** Illuminance (light trespass onto adjacent properties) shall not exceed 0.1 fc as measured 10 feet beyond the property line on the adjacent property in either the vertical or horizontal plane, in compliance with the limits defined in the International Dark Sky Association and Illuminating Engineering Society Model Lighting

[3] County ASA guidelines and findings (County Code Section 5.40.040) do not contain specific lighting levels or thresholds.

Ordinance from 2011 (IDA/IES MLO-2011)[4]. Horizontal illuminance is the amount of light that lands on a horizontal surface, such as a tabletop. Vertical illuminance is the amount of light that lands on a vertical surface, such as a wall.[5] Illuminance is measured in foot-candles (fc). A fc is a measurement of light intensity and is defined as the illuminance on a one-square foot surface from a uniform source of light.[6]

- **Uplight and Skyglow:** The greenhouses shall not increase the brightness of the night sky by more than a factor of 0.1x the natural sky brightness (i.e., a 10 percent increase). This threshold is based on the definition of a "dark site" as suggested by the International Astronomical Union (I.A.U.).
- **Glare:** No regularly accessible viewpoint shall have a glare rating of 20 or higher. A glare rating of 20 is defined as "barely noticeable". This threshold is based on standard International Commission on Illumination (CIE) guidelines and formulae.

4.1.2.2 *Scenic Vistas and Scenic Resources*

The project site is not located within a County-designated Design Review combining district, and is not located in the vicinity of any ridgelines or scenic vistas (designated or otherwise). SR 152, approximately 200 feet south of the project site, is not a designated or eligible State Scenic Highway; therefore, the project would not damage scenic resources along a Scenic State Highway. **(No Impact)**

4.1.2.3 *Visual Character*

The proposed project includes construction of a 10,000 square foot agricultural research building, greenhouses, and related site improvements to support the existing and continued agricultural research use on-site. The project site is located in an agricultural area already containing clusters of agricultural-related buildings and rural residences. The proposed project, which would replace previously established greenhouse and hoop-house structures, would be consistent with this existing pattern of development. The proposed agricultural research building would be 20 feet tall and the greenhouses (located towards the rear of the property) would be 22 feet tall. These heights are similar to the surrounding one- and two-story structures in the vicinity. Additionally, the proposed agricultural research building is subject to a required 30-foot setback from all property lines to maintain distance from other structures and maintain the rural pattern of development.

The project would undergo ASA review as part of the County approval process, which considers and conditions projects to ensure harmony with the surrounding area through consideration of site configuration and design. Landscaping along the northwest property line would provide visual screening and would be reviewed through the ASA process. For these reasons, the proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. **(Less-than-Significant Impact)**

---

[4]International Dark Sky Association and Illuminating Engineering Society. Model Lighting Ordinance. https://www.ies.org/product/model-lighting-ordinance-mlo-with-users-guide/.

[5] Access Fixtures. "Why do Vertical and Horizontal Illuminances Matter?". Accessed June 19, 2018. https://www.accessfixtures.com/vertical-horizontal-illuminances-matter/.

[6] ACD. "What is a Foot Candle and How is it Measured?". Accessed June 19, 2018. https://blog.acdist.com/led-lighting-what-is-a-foot-candle.

4.1.2.4 *Light and Glare*

As described previously, a lighting analysis was conducted for the proposed project (included as Appendix B). Baseline measurements of light levels were taken at the project site using light meters. The project lighting includes the following:

- The interior of Greenhouse 1 (the closest to Holsclaw Road) would have 120 400-watt high pressure sodium lights mounted at approximately 9.5 feet above grade, for a total of 48,000 watts and about 3.7 watts per square foot.
- The interior of Greenhouse 2 would have 243 400-watt high pressure sodium lights mounted at approximately 9.5 feet above grade, for a total of 97,200 watts and about 3.9 watts per square foot.

The total proposed interior lighting is about 145,200 watts of high pressure sodium lighting (about 28.5 times the existing lighting wattage) generating about 14.5×10^6 lumens, or about 28.5 times the existing light output. All of the proposed lighting fixtures evaluated are full cutoff fixtures, which have zero light emitted at or above horizontal; however, the light proposed for the project is much more intense than a typical shielded light fixture. To address this intensity, modeling was conducted for the lighting analysis (as described on page five of Appendix B). The lighting was modeled using AGi32 lighting analysis software based on the site plan and light specifications and quantities above. The modeled light levels were then compared to the baseline light measurements taken at the site.

The following analysis summarizes the impact of the proposed project compared to the baseline light measurements taken. The project's horizontal and vertical illuminance (light trespass) are described.

Horizontal Illumination

As described previously, the existing greenhouses result in very limited (less than 0.05 fc) horizontal illumination at the nearest property line. The project proposes additional light sources in the form of greenhouses and on-site lighting. Light from the existing on-site greenhouses was measured and light from the proposed greenhouses was modeled. The photometric analysis compares the existing conditions to the proposed project to determine the level of horizontal light trespass at the northwest property line, which is closest to the proposed light sources (as described in detail in Appendix B). Based on this analysis, the light emanating from the proposed greenhouses would result in a maximum horizontal illumination of 0.3 fc at the nearest property line, which would fall to 0.1 fc at 10 feet beyond the northwest property line on the adjacent property at 6650 Holsclaw Road. Thus, horizontal illumination would not exceed the 0.1 fc threshold 10 feet beyond a property line and the impact would be less than significant.

In addition, the mitigation measure MM-AES-1.1 recommended below to reduce impacts from vertical illumination would further reduce the less-than-significant horizontal illumination impact at 10 feet beyond the adjacent property line to the northwest at 6650 Holsclaw Road. **(Less-than-Significant Impact)**

Vertical Illumination

As described previously, existing conditions and the proposed project lighting were compared as part of a photometric analysis to determine the horizontal trespass at the northwest property line, closest to the proposed light sources (as described in detail in Appendix B). The existing greenhouses have a maximum vertical illuminance (as measured 30 feet in the air) of 0.2 fc and an average vertical illuminance of 0.02 fc, as measured 10 feet from the northwest property line on the adjacent property at 6650 Holsclaw Road. The maximum modeled vertical illumination would be 7.9 fc for the proposed greenhouses, which would occur at the northwest property line adjacent to the proposed greenhouse at the rear of the site. The average for the entire northwest property line would be 2.7 fc. Vertical illumination at the northwest property line would, therefore, exceed the 0.1 fc threshold by 79 times and would result in a significant impact.

Impact AES-1: Vertical illumination from the proposed project greenhouses would exceed the 0.1 fc threshold by 79 times as measured 10 feet from the northwest property line on the adjacent property in the vertical plane. **(Significant Impact)**

Mitigation Measure: The following mitigation measure shall be implemented for both of the proposed greenhouses to reduce vertical illumination on adjacent properties.

MM AES-1.1: One or more solid barriers shall be installed within four feet of each of the proposed lighted greenhouses along the northwest side to reduce the vertical illuminance at the northwest property line to levels below those specified in the 2011 Model Lighting Ordinance from the International Dark Sky Association/Illuminating Engineering Society (0.1 fc measured 10 feet from the property line on the adjacent property). Such barrier(s) shall have an aggregate opacity of at least 80 percent and be at least as tall as the sidewalls of the proposed lighted greenhouses along their northwest side. At the election of the project applicant, such barrier(s) may either be incorporated within the overall design of the proposed lighted greenhouses themselves, or they may be installed as one or more separate structures constructed adjacent to the proposed lighted greenhouses along their northwest side. The design for such barrier structures shall be submitted to the Santa Clara County Department of Planning and Development for review and approval prior to issuance of a grading or building permit for the project.

Implementation of MM AES-1.1 would reduce vertical illumination on the adjacent property at 6650 Holsclaw Road by approximately 80 percent (reducing it to below the 0.1 fc threshold) and the resulting lighting impact would be less than significant[7]. **(Less-than-Significant Impact with Mitigation)**

Uplight and Sky Glow

Sky glow is measured in fc with a calculation grid placed at cloud level (6,000 feet), facing down. A calculation grid allows for collection of data at multiple points over the cloud surface in order to

[7] Light levels do not drop off at a linear rate based on distance from the source, as shown in Appendix 3 of the lighting analysis in Appendix B.

calculate an average (mean). For reference, the illuminance on the ground during a full moon is approximately 0.01 fc. Typically, an eight percent difference (increase or decrease) in brightness would be noticeable to humans.

Light fixtures proposed for use in the greenhouses would not result in direct uplight because they are full-cutoff fixtures, which means that no light is emitted at or above horizontal levels. For typical lighting, this shielding would be sufficient to ensure dark sky compliance; however, the lighting associated with the proposed greenhouses is more intense than typical lighting. Thus, a detailed simulation analysis of light pollution was performed as described in Appendix B. The brightness occurring as a result of the proposed greenhouses was modeled for an observer on the northwest edge of the property, as well as five kilometers beyond the northwest property boundary. The total lumen output for the light fixtures, losses through the glass, and ground reflectivity were included in the model. The estimated percent change in sky brightness is shown below in Table 4.1-1.

Table 4.1-1: Project Change in Sky Brightness

Location	Percent Change Due to Project
Edge of project site	2.2
Five kilometers from project site	0

As shown in the table, the sky brightness due to the proposed greenhouses would be well below the 0.1x threshold (10 percent increase) both at the property edge (2.2 percent change) and at a distance of five kilometers from the property boundary (no change). This increase in sky brightness would not be noticeable as it typically takes an eight percent difference (increase or decrease) in brightness to be noticeable to humans. The sky glow of nearby cities is significantly brighter than the sky glow that would result from the new greenhouses. For comparison, sky brightness from the City of San Jose to the north is 33 times brighter than the brightness caused by the proposed greenhouses, and the brightness from the cities of San Jose, Gilroy, and Salinas combined is 44 times brighter than the sky brightness caused by the proposed greenhouses. Hence, the impact of the proposed project on sky glow would be less than significant. **(Less-than-Significant Impact)**

Glare

Glare is described as difficulty seeing in the presence of bright light. It is a visual sensation caused by excessive and uncontrolled brightness. Its effect can be disabling or simply uncomfortable. The Glare Rating (GR) runs from 10, which is unnoticeable, to 90, which is unbearable and causes pain. Glare resulting from the proposed project was modeled and evaluated at seven points around the perimeter of the property as described in detail in Appendix B, which were chosen to reflect typical viewpoints into the site. The results are shown in Table 4.1-2.

Table 4.1-2: Project Glare Evaluation Summary			
Evaluation Point	**Glare Rating**		
	Avg.	**Max.**	**Min.**
Glare Evaluation Point # 1	10.00	10	10
Glare Evaluation Point # 2	10.00	10	10
Glare Evaluation Point # 3	10.00	10	10
Glare Evaluation Point # 4	10.00	10	10
Glare Evaluation Point # 5	10.00	10	10
Glare Evaluation Point # 6	10.03	12	10
Glare Evaluation Point # 7	10.41	16	10

As summarized in the table, glare from the proposed project would be unnoticeable on average to barely discernible in the worst case. As a result, glare from the project would not exceed the 20 GR threshold ("barely noticeable") and the impact would be less than significant. **(Less-than-Significant Impact)**

4.2 AGRICULTURAL AND FORESTRY RESOURCES

4.2.1 Environmental Setting

4.2.1.1 *Regulatory Framework*

State

California Land Conservation Act

The California Land Conservation Act (commonly referred to as the Williamson Act) enables local governments to enter into contracts with private landowners to restrict parcels of land to agricultural or related open space use. In return, landowners receive lower property tax assessments. Identification of properties that are under Williamson Act contract can also identify sites that may include or are zoned for agricultural resources.

Farmland Mapping and Monitoring Program

The California Resources Agency's Farmland Mapping and Monitoring Program (FMMP) assesses the location, quality, and quantity of agricultural land and conversion of these lands over time. Agricultural land is rated according to soil quality and irrigation status; the best quality land is categorized as Prime Farmland. FMMP maps are used to identify whether agricultural resources that could be affected are present on site or in the project site.

Forest Land, Timberland, and Timberland Production

The California Department of Forestry and Fire Protection (CalFire) identifies forest land, timberland, and lands zoned for timberland production that can (or do) support forestry resources. Programs such as CalFire's Fire and Resource Assessment Program (FRAP) are used to identify whether forest land, timberland, or timberland production areas that could be affected are located on or adjacent to a project site.

Local

Santa Clara County General Plan

The project site has a General Plan land use designation of Agriculture Large Scale. Allowable land uses are limited to agriculture and ancillary uses; uses necessary to directly support local agriculture; and other uses compatible with agriculture that clearly enhance the long-term viability of local agriculture and agricultural lands.

Zoning Ordinance

The project site is zoned Exclusive Agriculture, 40-Acre Combining District (A-40ac). Permitted uses include agriculture production, ancillary support uses, and associated rural residential uses. Agricultural research uses are permitted with Architecture and Site Approval (ASA), subject to the provisions of Chapter 5.40 of the Santa Clara County Code of Ordinances (County Code).

4.2.1.2 *Existing Conditions*

The Shamrock Seed Company site (Parcels 1 and 2) is under a Williamson Act contract. The proposed project site is currently occupied by a variety of agricultural related structures and uses, including a barn, greenhouses, hoop-houses, and planted row crops. The 3.5-acre portion of the project site is designated as Other Land on the FMMP maps. Other Land is defined as low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. The northern portion of the larger Shamrock Seed Site is designated Prime Farmland on the FMMP maps, where no development would occur except for location of the approximately 0.1-acre stormwater basin.[8] There are no timberlands or forest land on or in the vicinity of the project site.[9]

4.2.2 Agricultural and Forestry Resources Impacts

4.2.2.1 *Thresholds of Significance*

For the purposes of this EIR, an agricultural and forestry resource impact is considered significant if the project 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)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));
- Result in a 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 or conversion of forest land to non-forest use.

4.2.2.2 *Agricultural Land Conversion*

The construction of the agricultural research building, greenhouses, and other improvements would utilize previously disturbed areas on-site and would be clustered toward the southwestern portion of the property. The majority of the project site (approximately 3.2 acres) is identified as Other Land on the FMMP maps, with an approximately 0.1-acre area at the northwest edge of the site (where the stormwater detention pond would be developed) being designated and Prime Farmland. Therefore, the project would not convert more than 10 acres of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses and would not affect existing agricultural

[8] California Department of Conservation, Division of Land Resource Protection. *Santa Clara County Important Farmland 2014*. Map. October 2016.
[9] Santa Clara Valley Habitat Agency. "Habitat Agency Geobrowser". Accessed May 4, 2018. http://www.hcpmaps.com/habitat/.

operations on adjacent properties.[10] The proposed project would support current and future agriculture and agriculture research uses at the site. **(Less-than-Significant Impact)**

4.2.2.3 *Zoning or Williamson Act Conflict*

The property is under a Williamson Act contract. The County Department of Planning and Development has previously determined that the proposed project is a favorable and compatible use with the property's Williamson Act contract, as described in Appendix C. The proposed project would not substantially interfere with the existing agriculture use on-site or at any other property under the Williamson Act contract, nor would it significantly displace or impair current or reasonably foreseeable agricultural operations. Existing farmed areas on the project site would continue to be cultivated. Furthermore, commercial agriculture would continue to be the primary use of the land in that the proposed project would utilize only 9.7 percent of the property for non-agriculture purposes. Therefore, the project would comply with the l0 percent development allowance for non-agricultural uses allowed by the County for properties under Williamson Act contract. For these reasons (and consistent with the County's favorable compatible use findings), the project would not conflict with the existing agricultural zoning or the site's Williamson Act contract. **(Less-than-Significant Impact)**

4.2.2.4 *Timberland and Forest Land*

The proposed project would not result in the loss or conversion of forest land to non-forest use because none is located on the site or in the vicinity. **(No Impact)**

[10] Ten acres is considered the minimum size for productive agricultural use and is the smallest mapped unit under the FMMP.

4.3 AIR QUALITY

The impact discussion within this section is based primarily on California Emissions Estimator Model (CalEEMod) data included as Appendix D. The program was utilized in May of 2018 to calculate construction and operational emissions for the proposed project.

4.3.1 Environmental Setting

Air quality is determined by the concentration of various pollutants in the atmosphere. The amount of a given pollutant in the atmosphere is determined by the amount of pollutants released within an area, transport of pollutants to and from surrounding areas, local and regional meteorological conditions, and the topography of the air basin.

The Bay Area Air Quality Management District (BAAQMD) is responsible for assuring that federal and state ambient air quality standards are attained and maintained in the Bay Area. Air quality is generally assessed based on the concentrations of four criteria pollutants that are most commonly measured and regulated, including carbon monoxide (CO), ground level ozone (O_3), nitrogen dioxide (NO_2), and suspended particulate matter (PM_{10} and $PM_{2.5}$).[11,12]

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. The Bay Area is considered a non-attainment area for ground-level O_3 and $PM_{2.5}$ under both the federal Clean Air Act and the California Clean Air Act. The area is also considered a non-attainment area for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both state and federal ambient air quality standards for CO.

4.3.1.1 *Local Community Risks/Toxic Air Contaminants and Fine Particulate Matter*

Besides criteria air pollutants, there is another group of substances found in ambient air referred to as Toxic Air Contaminants (TACs). These contaminants tend to be localized and are found in relatively low concentrations in ambient air. Exposure to low TAC concentrations over long periods, however, can result in adverse health effects. Diesel exhaust is a predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average).[13]

Fine Particulate Matter ($PM_{2.5}$) is a complex mixture of substances that includes elements such as carbon and metals; compounds such as nitrates, organics, and sulfates; and complex mixtures such as diesel exhaust and wood smoke. Long-term and short-term exposure to $PM_{2.5}$ can cause a wide range of cancer- and noncancer-related health effects.

Common stationary sources of TACs and $PM_{2.5}$ include gasoline stations, dry cleaners, diesel backup generators, diesel fueled motor vehicles, and motor vehicles on roadways and freeways.

[11] Particulate matter is referred to by size (i.e., 10 or 2.5) because the size of particles is directly linked to their potential for causing health problems.
[12] BAAQMD. "Annual Bay Area Air Quality Summaries." Accessed May 4, 2018. http://www.baaqmd.gov/about-air-quality/air-quality-summaries.
[13] CARB. "Overview: Diesel Exhaust and Health". Accessed May 4, 2018. https://www.arb.ca.gov/research/diesel/diesel-health.htm.

4.3.1.2 *Sensitive Receptors*

Sensitive receptors are groups of people more affected by air pollution than others. The California Air Resources Board (CARB) has identified children under 16, the elderly over 65, and people with cardiovascular respiratory diseases as sensitive receptors. Residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks may contain a high concentration of these sensitive receptors.

4.3.1.3 *Regulatory Framework*

Regional

2017 Clean Air Plan

BAAQMD is the agency primarily responsible for assuring that the federal and state ambient air quality standards are maintained in the San Francisco Bay Area. Regional air quality management districts, such as BAAQMD, must prepare air quality plans specifying how state and federal air quality standards will be met. BAAQMD's most recently adopted plan is the Bay Area 2017 Clean Air Plan (2017 CAP). The 2017 CAP focuses on two related BAAQMD goals: protecting public health and protecting the climate. To protect public health, the 2017 CAP describes how BAAQMD will continue its progress toward attaining state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. To protect the climate, the 2017 CAP includes control measures designed to reduce emissions of methane and other super-GHGs that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

CEQA Air Quality Guidelines

The BAAQMD CEQA Air Quality Guidelines are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the San Francisco Bay Area. The County of Santa Clara and other jurisdictions in the San Francisco Bay Area Air Basin utilize the thresholds and methodology for assessing air quality Impacts developed by BAAQMD within their CEQA Air Quality Guidelines. The guidelines include information on legal requirements, BAAQMD rules, methods of analyzing impacts, and recommended mitigation measures.

4.3.1.4 *Existing Conditions*

The project site is located within the climatological subregion referred to as the Santa Clara Valley. The Santa Clara Valley is bounded by relatively high hills to the west and east. The topography of the project area influences both the climate and air pollution potential. As an inland valley, the project area has generally lighter winds and a higher frequency of calm conditions when compared to the greater Bay Area. Air pollutant emissions from upwind-urbanized areas are still on occasion transported with a southerly wind flow from the Bay Area towards the Valley.

The existing operations at the project site result in emissions of pollutants from vehicle trips and use of farm equipment (e.g., tractors and plows). The closest sensitive receptors are three separate residences located on Holsclaw Road. These residences are approximately 40 feet west, 90 feet southwest, and 200 feet southeast of the project site.

4.3.2 Air Quality Impacts

4.3.2.1 *Thresholds of Significance*

For the purposes of this EIR, an air quality impact is considered significant if the project 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 non-attainment 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 pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

Impacts from the Project

As discussed in CEQA Guidelines Section 15064(b), the determination of whether a project may have a significant effect on the environment calls for judgment on the part of the lead agency and must be based to the extent possible on scientific and factual data. The County of Santa Clara has considered the air quality thresholds updated by BAAQMD in May 2017 and regards these thresholds to be based on the best information available for the San Francisco Bay Area Air Basin and conservative in terms of the assessment of health effects associated with TACs and $PM_{2.5}$. The BAAQMD CEQA Air Quality thresholds used in this analysis are identified in Table 4.3-1.

Table 4.3-1: Thresholds of Significance Used in Air Quality Analyses			
Pollutant	**Construction**	**Operation**	
	Average Daily Emissions (pounds)	**Average Daily Emissions (pounds)**	**Maximum Annual Emissions (tons)**
ROG, NO_x	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
Fugitive Dust (PM_{10}/$PM_{2.5}$)	Implement Best Management Practices	None	None
Risk and Hazards for New Sources and Receptors (Project)	Same as operational threshold	• Increased cancer risk of >10.0 in one million • Increased non-cancer risk of > 1.0 Hazard Index (chronic or acute) • Ambient $PM_{2.5}$ increase: > 0.3 μ/m^3 (Zone of influence: 1,000-foot radius from property line of source or receptor)	
Risk and Hazards for New Sources and Receptors (Cumulative)		• Increased cancer risk of >100 in one million • Increased non-cancer risk of > 10.0 Hazard Index (chronic or acute) • Ambient $PM_{2.5}$ increase: > 0.8 μ/m^3 (Zone of influence: 1,000-foot radius from property line of source or receptor)	
Sources: BAAQMD CEQA Thresholds Options and Justification Report (2009) and BAAQMD CEQA Air Quality Guidelines (dated May 2017).			

4.3.2.2 *Air Quality Plan Consistency*

No inconsistencies between the proposed project and applicable air quality plans have been identified. The proposed project would not conflict with the 2017 CAP because the proposed structure would be smaller than the BAAQMD CEQA Air Quality Guidelines Operational Criteria Pollutant Screening Size. Thus, the project is not required to incorporate project-specific control measures listed in the 2017 CAP. The project is consistent with General Plan air quality policies related to emissions-control measures by limiting vehicle idling times. **(Less-than-Significant Impact)**

4.3.2.3 *Violate Air Quality Standards*

Construction Air Quality Impacts

Fugitive Dust

Dust is generated by a variety of project construction activities including grading, import/export of fill material, and vehicle travel on unpaved surfaces. Project construction activities would include excavation and grading, which would generate dust and other particulate matter. The amount of dust generated would be highly variable and dependent on the size of the area disturbed at any given time,

soil conditions, and meteorological conditions. Sensitive receptors in the project vicinity could be adversely affected by dust generated during construction activities, particularly $PM_{2.5}$, which is a known TAC.

Consistent with General Plan Policy HE-G.7, the following BAAQMD Basic Construction Mitigation Measures will be required as ASA conditions of approval to reduce construction fugitive dust impacts during all phases of construction. These measures would also limit diesel exhaust, which is also a known TAC:

- Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- Haul trucks transporting soil, sand, or other loose material off-site shall be covered or a minimum of two feet of freeboard shall be provided.
- 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.
- Vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- Roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as a soon as possible 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 Regulations). Clear signage shall be provided for construction workers at all access points.
- Construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. 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 County of Santa Clara regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

With implementation of the BAAQMD Basic Construction Mitigation Measures, impacts due to dust emissions and exhaust during construction of the proposed project would be reduced to a less-than-significant level. **(Less-than-Significant Impact)**

Criteria Pollutants

BAAQMD has developed screening criteria to provide a conservative indication of whether a project would potentially result in the generation of criteria air pollutants and/or precursors that exceed the thresholds shown in Table 4.3-1.[14] For construction impacts from criteria pollutants, the project proposes a 10,000 square foot office structure and 38,500 square feet of greenhouse space, where the screening size for General Office Building (a conservative classification given the limited heavy equipment required to construct the greenhouses) is 277,000 square feet. Because the proposed

[14] Table 3-1 of the BAAQMD CEQA Air Quality Guidelines

project would be below the screening size, it would have a less-than-significant criteria air pollutant impact during construction. **(Less-than-Significant Impact)**

Operational Criteria Pollutants

The proposed 10,000-square-foot office structure and 38,500 square feet of greenhouse space would not exceed the BAAQMD operational criteria pollutant screening criteria size of 346,000 square feet (using a conservative General Office Building screening criteria category), and therefore would also not exceed the thresholds shown in Table 4.3-1.[15] As a result, the project would have a less-than-significant operational air quality impact. **(Less-Than-Significant Impact)**

4.3.2.4 *Sensitive Receptors*

Toxic Air Contaminants

The proposed project would generate TACs during construction that could adversely expose nearby sensitive residential receptors. As mentioned previously, the nearest sensitive receptors are the three single-family residences along Holsclaw Road to the west, southwest, and southeast of the project site. Consistent with BAAQMD Guidelines, the following shall be included as a condition of project approval and implemented during construction to reduce exposure to nearby sensitive receptors to TAC emissions:

- Mobile diesel-powered off-road equipment larger than 25 horsepower and operating on-site for more than two days continuously (or 20 hours in total) shall meet U.S. Environmental Protection Agency particulate matter emissions standards for Tier 2 engines equipped with CARB-certified Level 3 Diesel Particulate Filters or equivalent.

Implementation of this condition of approval would reduce community risk impacts from construction to less than significant. **(Less-than-Significant Impact)**

4.3.2.5 *Odors*

Examples of land uses that generate considerable odors includes wastewater treatment plants, landfills, and chemical plants. The proposed seed research facility would continue the existing agricultural use of the site. The existing uses are not sources of significant odors, and proposed expansions would be consistent with the current operations at the project site. Trash areas would be located within the proposed parking lot at the front of the research building, approximately 50 feet from the nearest existing sensitive receptor to the northwest. The trash enclosure would be screened and covered to limit odors. As a result, any odor impacts would be minor and less than significant. **(Less-than-Significant Impact)**

[15] Table 3-1 of the BAAQMD CEQA Air Quality Guidelines.

4.4 BIOLOGICAL RESOURCES

4.4.1.1 *Regulatory Framework*

Federal and State

Federal Endangered Species Act

The federal Endangered Species Act (FESA) protects plants and wildlife that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service. FESA prohibits take of endangered wildlife, where "take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct."[16] For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment, a violation of the MBTA. Additionally, nesting birds are considered special-status species and are protected by the USFWS. The California Department of Fish and Wildlife (CDFW) also protects migratory and nesting birds under California Fish and Game Code Sections 3503, 3503.5, and 3800, which prohibit the taking, possession, or destruction of the nest or eggs of any birds and the taking of any nongame birds. "Taking" includes causing abandonment and/or loss of reproductive efforts through disturbance.

Sensitive Habitats

Wetland and riparian habitats, as well other sensitive natural communities identified in local or regional plans, policies, regulations, or by the CDFW or USFWS are considered sensitive habitats under CEQA. They are afforded protection under applicable federal, state, and local regulations, and are generally subject to regulation, protection, or consideration by state and federal regulatory agencies.

Regional

Santa Clara Valley Habitat Plan

The Santa Clara Valley Habitat Plan (Habitat Plan) is a conservation program intended to promote the recovery of endangered species and enhance ecological diversity and function, while accommodating planned growth on approximately 500,000 acres of southern Santa Clara County, including the project site. It is both a habitat conservation plan (HCP) under the federal Endangered

[16] The Endangered Species Act, in its entirety, is available on the USFWS website: https://www.fws.gov/endangered/esa-library/pdf/ESAall.pdf.

Species Act, and a natural community conservation plan (NCCP) under the California Natural Community Conservation Planning Act.

Local

Santa Clara County General Plan

The following policies and goals in the Santa Clara County General Plan provide for the protection of biotic resources.

Policy	Description
C-RC 27	Habitat types and biodiversity within Santa Clara County and the region should be maintained and enhanced for their ecological, functional, aesthetic, and recreational importance.
R-RC 31	Natural streams, riparian areas, and freshwater marshes shall be left in their natural state providing for percolation and water quality, fisheries, wildlife habitat, aesthetic relief, and educational or recreational uses that are environmentally compatible. Streams which may still provide spawning areas for anadromous fish species should be protected from pollution and development impacts which would degrade the quality of the stream environment.
R-RC 32	Riparian and freshwater habitats shall be protected through the following general means: a. setback of development from the top of the bank; b. regulation of tree and vegetation removal; c. reducing or eliminating use of herbicides, pesticides, and fertilizers by public agencies; d. control and design of grading, road construction, and bridges to minimize environmental impacts and avoid alteration of the streambed and stream banks (free-span bridges and arch culverts, for example); and e. protection of endemic, native vegetation.
R-RC 37	Lands near creeks, streams, and freshwater marshes shall be considered to be in a protected buffer area, consisting of the following: 1. 150 feet from the top bank on both sides where the creek or stream is predominantly in its natural state; 2. 100 feet from the top bank on both sides of the waterway where the creek or stream has had major alterations; and 3. In the case that neither (1) nor (2) are applicable, an area sufficient to protect the stream environment from adverse impacts of adjacent development, including impacts upon habitat, from sedimentation, biochemical, thermal and aesthetic impacts.

County Tree Preservation and Removal Ordinance

The County of Santa Clara Tree Preservation and Removal Ordinance serves to protect trees in certain zoning districts that are over 37.7 inches in circumference (12 inches or more in diameter) measured at 4.5 feet above the ground, or exceed 20 feet in height. County-designated heritage trees are also protected. In accordance with the Tree Preservation and Removal Ordinance, the County's Guidelines for Tree Protection and Preservation for Land Use Applications are used to evaluate how trees are protected, preserved, removed and replaced, as part of land use approvals.

4.4.1.2 *Existing Conditions*

The project site is currently utilized for agricultural purposes and contains row crops, greenhouses, and associated structures (i.e. barn, office, equipment storage structures). The project site is located in the Habitat Plan Area and the Land Cover type is Rural Residential and Grain, Row Crop, Hay and

Pasture, Disked. The site is designated Area 3 Rural Development Not Covered; therefore, no Habitat Plan coverage screening form is necessary for the project. There are no CDFW- or USFWS-designated sensitive habitats, wetlands, or riparian areas at the project site; however, Llagas Creek (approximately 75 feet southwest of the project site, across Holsclaw Road) is mapped by the USFWS as a riparian feature that holds water seasonally.[17]

A portion of the project site along Holsclaw Road is also located within a Habitat Plan-identified least Bell's vireo and tricolored blackbird survey area adjacent to an isolated section of what was previously Llagas Creek that contains water (seasonally), as well as riparian vegetation associated with and abandoned section of Llagas Creek located approximately 75 feet southwest of the project site, across Holsclaw Road.[18] This section of the creek was abandoned in the 1950s when Llagas Creek was rechannelized in its current location approximately 700 feet west of the property. Least Bell's vireo (a California Species of Special Concern) occurs in Northern California during the breeding season in March, and migrates out of the state July through September. The species prefers dense brush, mesquite, or cottonwood-willow forests in riparian areas. Tricolored blackbirds (a California Endangered Species) breed near fresh water in dense emergent vegetation, such as riparian areas.[19]

There is one tree located at the southeast corner of the site, and two trees located along the project frontage in the public right-of-way. The applicant has proposed that these three trees would be protected and preserved as part of the project.

4.4.2 Biological Resources Impacts

4.4.2.1 *Thresholds of Significance*

For the purposes of this EIR, a biological resource impact is considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the 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 the 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 any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

[17] USFWS. National Wetlands Inventory. Mapper. Accessed August 15, 2018. https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/.
[18] Santa Clara Valley Habitat Agency. Geobrowser. Accessed May 7, 2018. http://www.hcpmaps.com/habitat/.
[19] Santa Clara Valley Habitat Agency. Final Santa Clara Valley Habitat Plan. August 2012.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.4.2.2 *Special Status Species*

As previously discussed, there are currently three trees located on the project site, which would be preserved as part of the project. Additionally, there is a riparian corridor associated with an abandoned section of Llagas Creek located approximately 75 feet southwest of the project site, across Holsclaw Road. Use of the trees for nesting by raptors or other migratory birds (including least Bell's vireo and tricolored blackbird) could occur. Nesting raptors or other migratory birds present during construction could be impacted as a result of construction activities. Noise, moving vehicles, and equipment use could disturb the birds causing them to abandon their nests or eggs, which would be a significant impact (defined as "take") as nesting birds are protected under the USFWS MBTA and CDFW code.

Impact BIO-1: Noise and equipment activity associated with construction activities at the proposed project site could impact nesting migratory birds due to the loss of fertile eggs or nest abandonment. **(Significant Impact)**

Mitigation Measures: In accordance with the MBTA and the California Fish and Game Code, which would also be consistent with conditions 16 and 17 of the Habitat Plan, the following mitigation measures shall be implemented as part of the project to reduce and avoid impacts to raptors and migratory birds during construction:

MM BIO 1-1: The project applicant shall schedule construction to avoid the nesting season to the extent feasible. The nesting season for most birds, including most raptors, in the San Francisco Bay area extends from February 1st through August 31st.

If it is not possible to schedule demolition and construction activities outside of the breeding season (September 1st to January 31st), pre-construction surveys for nesting birds following the CDFW bird survey protocols shall be completed by a qualified ornithologist to ensure that no nests are disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of grading, tree removal, or other demolition or construction activities during the early part of the breeding season (February 1st through April 30th) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May 1st through August 31st). During this survey, the ornithologist shall inspect all trees and other possible nesting habitats within 250 feet of the construction areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest, typically 250 feet, to ensure that raptor or migratory bird nests will not be disturbed during project construction.

The ornithologist shall submit a report indicating the results of the survey and any designated buffer zones to the County Department of Planning and Development

for review and approval prior to issuance of a grading or building permit. **(Less-than-Significant Impact with Mitigation)**

4.4.2.3 *Wetlands, Riparian Habitat, or Other Sensitive Communities*

The project site is located approximately 75 feet from the edge of the Llagas Creek riparian corridor, along the abandoned section of Llagas Creek, across Holsclaw Road and 85 feet from the top of bank. Project paving for the parking lot would be located at this 85-foot distance and the closest structure (the research building) would be approximately 155 feet from the top of bank (or 75 and 145 feet from the edge of the riparian corridor, respectively). This riparian vegetation is the only sensitive habitat in the project vicinity. At this distance of separation, and given that the existing Holsclaw Road separates the riparian vegetation from the proposed project site, the project would not impact the riparian corridor vegetation or the abandoned section of Llagas Creek. **(Less-than-Significant Impact)**

4.4.2.4 *Migratory Corridors*

Given that the project site is currently under active cultivation, is disked regularly, and contains greenhouses and other associated agricultural-related structures, the site is not a designated wildlife movement corridor or a native wildlife nursery site. The proposed project would, therefore, not significantly impact the movement of wildlife species through the area or impede the use of nursery sites. **(Less-than-Significant Impact)**

4.4.2.5 *Consistency with Plans and Policies*

No inconsistencies between the proposed project and applicable general plans and regional plans have been identified. The project would not impact habitat areas, including the adjacent Llagas Creek riparian corridor, consistent with General plan policies C-RC 27, R-RC 31, and R-RC 32. Consistent with General Plan Policy R-RC-3, the project would be more than 100 feet from the top bank of the isolated section in the previous location of Llagas Creek. **(Less-than-Significant Impact)**

4.4.2.6 *Habitat Conservation Plan*

As discussed previously, the project site is designated Area 3 Rural Development Not Covered in the Habitat Plan. The project site is currently used for agricultural purposes and that use would continue under the proposed project. The project would not conflict with provisions of the plan because the proposed project is not a covered development. Further, the project would implement MM BIO-1.1 to avoid impacts to nesting birds, including pre-construction surveys and implementation of a 250-foot buffer around active nests. **(Less-than-Significant Impact)**

4.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

The discussion within this section is based on information contained within an archaeological survey prepared by Holman & Associates in April 2018 (which is confidential due to the sensitivity of the information contained within the survey), as well as a historic resources evaluation prepared by Garavaglia Architecture, Inc. in May 2018, included as Appendix E.

4.5.1 Environmental Setting

4.5.1.1 *Regulatory Framework*

Federal

National Register of Historic Places

The National Historic Preservation Act is the primary federal law dealing with historic preservation. The historic significance of a building, structure, object, site, or district for listing is assessed based upon the criteria in the National Register of Historic Places (NRHP). A resource is considered eligible for the NRHP if the quality of significance in American history, architecture, archaeology, engineering, and culture is present and if the resource includes integrity of location, design, setting, materials, workmanship, feeling, and association and:

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

Secretary of the Interior's Standards

The Secretary of the Interior's Standards for the Treatment of Historic Properties are a series of guidelines for maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations to historic structures. The standards promote historic preservation best practices and offer design and technical recommendations to assist in applying the guidelines. Federal, state, and local agencies use the standards in reviewing projects that involve changes to historic structures. A project that has been determined to conform with the Secretary of the Interior's Standards can generally be considered to have a less than significant impact under CEQA (14 California Code of Regulations Section 15126.4(b)(1)).[20]

[20] State of California. Office of Historic Preservation. "California Office of Historic Preservation Technical Assistance Series #1". Accessed August 17, 2017. http://www.ohp.parks.ca.gov/pages/1054/files/ts01ca.pdf.

State

California Register of Historical Resources

The California Register of Historical resources (CRHR) is administered by the State Office of Historic Preservation and encourages public recognition and protection of resources of architectural, historical, archeological, and cultural significance. The CRHR identifies historic resources for state and local planning purposes, determines eligibility for state historic preservation grant funding, and affords protections under CEQA. A historic resource listed in, or formally determined to be eligible for listing in the NRHP is, by definition, included in the CRHR (Public Resources Code Section 5024.1(d)(1)).

For a historical resource to be eligible for listing on the CRHR, it must be significant under one or more of the following criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2. It is associated with the lives of persons important to local, California, or national history;
3. It 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; or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Tribal Cultural Resources

Assembly Bill (AB) 52 requires that tribal cultural resources be considered under CEQA. A tribal cultural resource can be a site, feature, place, object, or cultural landscape with value to a California Native American tribe that is also eligible for listing on the CRHR. AB 52 includes a broad definition of what may be considered to be a tribal cultural resource, and includes a list of recommended mitigation measures for potential impacts. AB 52 requires lead agencies to provide notice of projects to tribes that are traditionally and culturally affiliated with the geographic area if they have requested to be notified. Where a project may have a significant impact on a tribal cultural resource, consultation is required until the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource or when it is concluded that mutual agreement cannot be reached.

Archaeological Resources

Archaeological sites are protected by state policies and regulations under the California Public Resources Code, California Code of Regulations (Title 14, Section 1427), and California Health and Safety Code. California Public Resources Code Sections 5097.9-5097.991 require notification of discoveries of Native American remains and provide for the treatment and disposition of human remains and associated grave goods.

Both state law and the County of Santa Clara Ordinance Code (Section B6-18) require that the County Coroner be notified if human skeletal remains are found on a site. If the Coroner determines the remains are those of Native Americans, the Native American Heritage Commission (NAHC) and a most likely descendant must also be notified.

Paleontological Resources Regulations

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. They range from mammoth and dinosaur bones to impressions of ancient animals and plants, trace remains, and microfossils. California Public Resources Code Section 5097.5 specifies that unauthorized removal of a paleontological resource is a misdemeanor. Under the CEQA Guidelines, a project would have a significant impact on paleontological resources if it will disturb or destroy a unique paleontological resource or site or unique geologic feature.

Local

Santa Clara County General Plan

The following policies in the County's General Plan have been adopted for the purpose of avoiding or mitigating impacts to cultural resources resulting from development within the County.

4.5.1.2 *Existing Conditions*

Historic Resources

Project Site

The project proposes the demolition of existing on-site greenhouses totaling approximately 14,433 square feet, and existing modular office structure, barn, and equipment shed would remain. Of these structures, only the barn (likely constructed in the 1890s and associated with a residential structure that was demolished in 2006) is old enough to be analyzed as a potential historic resource under CEQA.

The existing barn is located toward the center of the project site, as shown previously in Photograph 2. The one-story barn has a steeply pitched gable roof with two shed-roof wings. The barn is painted white and has vertical wood board siding on the exterior. There are several window openings of varying sizes but no glazing is present. An unenclosed canopy structure is attached to the rear of the barn and was likely used for fruit drying production. The wood roof is supported by wood posts and covered with a corrugated metal roof. The subject barn is a typical vernacular structure for the location and era.

The barn is not eligible for the NRHP because operations at this property did not influence larger agricultural development patterns, the property is not associated with the lives of historically significant persons, the structure is not of a distinctive or high artistic value architecturally, and would not be likely to provide additional historic information.

The barn is, however, strongly associated with the developing agricultural industry in the Santa Clara County area from the 1900s through the 1940s. The barn retains integrity of location, design, materials, workmanship, feeling, and association, though it retains marginal integrity for its setting. The barn has not been altered significantly, and remains in the same location during the period of significance. The on-site barn, therefore, retains marginal historic integrity and is eligible for listing on the CRHR under Criteria 1 on a local level.

Adjacent Structures

The property to the northwest of the project site at 6650 Holsclaw Road is resource number 107 on the Santa Clara County Heritage Resource Inventory. The property (known as the Edwin Willson Ranch) includes a residence and a barn. The structures have had few alterations and maintain integrity of location, setting, design, feeling, association, workmanship, and materials. The property is eligible for listing on the NRHP under Criteria A and C, and on the CRHR under Criteria 1 and 3 as a significant representation of the agricultural development of the region, and the house specifically as a distinctive, ornate example of Queen Anne Victorian architecture. The barn contributes to the overall historic significance of the house.[21]

Archaeological Resources

Site Research Summary

The project site is adjacent to a bend in Llagas Creek that was abandoned when the creek was channelized sometime after 1955 and before 1994. Several archaeological surveys have been conducted within the project area related to work on Llagas Creek and nearby SR 152. No archaeological resources were identified at the project site as part of past studies. Within approximately 0.50 mile, however, three Native American archaeological sites have been identified—each containing mortars, pestles, and various groundstone artifacts. As a result of these adjacent discoveries and the site's location near the creek, it has a high potential for buried Native American archaeological sites to be present.

The project site is located in the vicinity of what was once the community of San Ysidro (also called Old Gilroy), which included approximately 24 houses scattered between the project site and Highway 152 to the south, with one house being located on the southeast corner of the project site. Based on the historical land use at this location, there is also a moderate to high potential for historic-era archaeological resources.

Site Survey Summary

In April 2018, a survey of the 3.5-acre project site and the larger 22-acre site was completed. Four isolated Native American artifacts were identified, including a pestle fragment, chert debitage, and a possible greywacke handstone north and east of the 3.5-acre project site in a fallow field on the larger site. The artifacts had machinery damage and were spread out over more than 100 meters (on-site soils have been ripped every one to two years to a depth of 3.5 to four feet, and the fields have been disked to a depth of at least one foot between crops). As a result, the area is not considered an archaeological site.[22]

A light-scatter of artifact fragments dating from the 1870s to 1890s were found. These fragments included domestic and agricultural-related items, which were smaller in size and included pieces of glass bottles and earthenware, as well as a wrought-iron horse shoe fragment.

[21] State of California Department of Parks and Recreation. Primary Record for SCL107 Edwin Willson Ranch. Dill Design Group. March 14, 2003.

[22] An archaeological site must have a grouping of at least three artifacts in a discrete area of 100 meters, as described in the archaeological survey.

Tribal Cultural Resources

While no formal request for notification of projects in the geographic area that includes the project site has been received by the County of Santa Clara pursuant to AB 52, Native American Consultation to meet the intent of AB 52 was initiated with the NAHC. A review of the Sacred Lands File for evidence of cultural resources indicated that Native American cultural sites were present within the project area. The NAHC advised that the Amah Mutsun Tribal Band and six Native American individuals/organizations be contacted. Letters were sent via email to those individuals and organizations on March 27, 2018. In addition, follow-up phone calls were placed on April 11, 2018 to the individuals.

The Amah Mutsun Tribal Band representatives stated during phone calls with Holman & Associates that they were not aware of cultural resources nor special spiritual significance attributed to the project site. The representatives noted, however, that burials have been encountered in the vicinity during earth moving activities occurring to a depth greater than 10 inches.

Paleontological Resources

The area surrounding the subject property is underlain by basin deposits of the Holocene-era, which are generally not considered sensitive for paleontological resources because biological remains younger than 10,000 years are not usually considered fossils.[23] Thus, these sediments have low potential to yield fossil resources. More recent sediments, however, may overlie older Pleistocene sediments with high potential to contain paleontological resources. These older sediments, often found at depths of greater than 10 feet below the ground surface, have yielded the fossil remains of plants and extinct terrestrial Pleistocene vertebrates.

4.5.2 Cultural Resources Impacts

4.5.2.1 *Thresholds of Significance*

For the purposes of this EIR, a cultural resources impact is considered significant if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5;[24]
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
- Disturb any human remains, including those interred outside of dedicated cemeteries;

[23] AEI Consultants. Phase I Environmental Site Assessment. August 23, 2013.

[24] Under Public Resources Code Section 5020.1(q), a substantial adverse change is defined as the physical demolition, destruction, relocation, or alteration of a historic resource or its immediate surroundings such that its historic significance would be materially impaired. The CEQA Guidelines state that a project that demolishes or alters the physical characteristics of an historical resource that convey its historical significance (i.e., its character-defining features) can be considered to materially impair the resource's significance.

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    - Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying this criteria, the significance of the resource to a California Native American tribe shall be considered.

4.5.2.2 *Historical Resources*

On-Site Barn

The project would not physically modify the existing barn structure. The proposed water tank would be located approximately 30 feet from the barn, and the greenhouse structures would be located between 30 and 60 feet from the barn. Given this separation of distance, the proposed use would not modify the physical characteristics of the barn that make it CRHR-eligible (as it will continue to be used for agricultural/storage purposes). The project would also not modify the location of the access road, which would continue to be utilized as it is today. As described in detail within Appendix E, the project would comply with all of the *Secretary of the Interior's Standards for Rehabilitation*, except for Standard 9 which states that:

> *"New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment."*

The project would be generally out of scale and character with the on-site, potentially historic barn; however, the site and broader area have previously been altered with roadways, modern structures. Changes to land use patterns have further disrupted the overall historic setting. The project is similar to existing industrial and commercial uses and buildings further to the southeast on Holsclaw Road. While the materials proposed (primarily metal) are not in keeping with the immediately adjacent structures, metal buildings are present in the vicinity, in particular to the southeast on Holsclaw Road.

Despite non-compliance with Standard 9, the project would not cause an adverse change in the significance of the CRHR-eligible barn such that its eligibility would be compromised because it would not alter the physical characteristics of the barn that convey its historical significance. The barn already has marginal integrity for its setting. Because physical alteration of the barn would not occur, proposed structures would be physically separated from the barn, agricultural use at the site would continue, and the project would be compliant with the other nine *Secretary of the Interior's Standards for Rehabilitation*, implementation of the project would not compromise the barn's eligibility for the CRHR. For these reasons, the impact would be less than significant. **(Less-than-Significant Impact)**

Adjacent Edwin Willson Ranch

The proposed project would not physically modify the existing Queen Anne Victorian residence or barn at the adjacent Edwin Willson Ranch property in any way. The proposed project would maintain a separation distance of 30 feet from the property line and 60 feet from the existing residence at the Edwin Willson Ranch property. The project would not alter the physical characteristics of the historical resource that conveys its historical significance, mainly the ornate Queen Anne architecture of the main residence. Further, a landscape buffer would be planted along the northwest property line to screen the project site. As described previously, the proposed project would be compliant or marginally compliant with nine of the ten *Secretary of the Interior's Standards for Rehabilitation*. Implementation of the project would not, therefore, materially impair or compromise the Edwin Willson Ranch property's eligibility for the NRHP, CRHR, or listing on the local register. As a result, the impact would be less than significant. **(Less-than-Significant Impact)**

4.5.2.3 *Archaeological Resources*

No cultural resources were identified at the project site as part of the records search and the archaeological and historic-era deposits identified during the site visit would be avoided by the project. There is, however, still a high potential for buried Native American archaeological sites and moderate-to-high potential for historic-era archaeological resources to be present below the ground surface. Because ground disturbance would occur as part of project construction, project activities could disturb unknown archaeological resources. This would be considered a significant impact.

Impact CUL-1: Unknown archaeological resources could be damaged during construction of the project. **(Significant Impact)**

Mitigation Measure: The following measure would reduce the potential for impacts to unknown buried Native American archaeological resources or historic-era archaeological resources that could be present at the project site.

MM CUL-1.1: Prior to the start of ground disturbance, a cultural resources sensitivity training shall be given by a qualified member of the Amah Mutsun Tribal Band of Mission San Juan Bautista to all contractors/workers involved with ground-disturbing construction activities. Verification of completion of the training shall be submitted to the County Department of Planning and Development staff prior to the issuance of any grading or building permits.

MM CUL-1.2: A qualified Native American monitor from the Amah Mutsun Tribal Band of Mission San Juan Bautista shall be present on site during ground-disturbing construction activities that involve excavation or disturbance more than 10 inches below the existing grade.

MM CUL-1.3: In the event that archaeological or Native American resources are encountered during construction, work shall be temporarily halted in the vicinity of the discovered materials. Workers shall not alter or disturb the materials and their context until a qualified professional archaeologist has evaluated the materials

and provided recommendations for treatment/preservation and documentation of the discovered archaeological and/or Native American resources. Documentation of treatment of the resources shall be submitted to the County Department of Planning and Development staff upon completion of construction. **(Less-than-Significant with Mitigation Incorporated)**

Human Remains

Portions of the project site are located within areas sensitive for archaeological resources, this could include human remains. There is the possibility that human remains could be disturbed during ground-disturbing activities associated with the proposed project. This potential disturbance would be a significant impact.

Impact CUL-2: Project activities could disturb human remains, including those interred outside of formal cemeteries. **(Significant Impact)**

Mitigation Measure: The following measure would ensure that any discoveries would be handled in accordance with state law and County Code section B6-16 *et seq*., and would reduce the significance of this impact to a less-than-significant level.

MM CUL-2.1: In the event that human remains are discovered during ground-disturbing activities and/or grading at the site, all activity within a 50-foot radius of the find shall be stopped. The County Coroner shall be notified immediately and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is necessary and shall comply with all other requirements of Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, Title 14 California Code of Regulations Section 15064.5(e), and County Code section B6-16 *et seq*. If the remains are determined to be Native American, the Coroner shall notify the NAHC within 24 hours of this determination. Once the NAHC identifies the most likely descendants, the descendants shall make recommendations regarding proper burial (including the treatment of grave goods). No further disturbance of the site shall be made except as authorized by the County Coordinator of Indian Affairs and NAHC in accordance with the provisions of state law and the County Ordinance. **(Less-than-Significant with Mitigation Incorporated)**

4.5.2.4 *Paleontological Resources*

While there is the potential for paleontological resources to be present at the project site, they would likely be located at depth. The maximum depth of excavation would be two feet for construction of the research building and greenhouses, and five feet for the construction of the septic system leach field. Given the past history of disturbance at the site associated with agricultural activities, the presence of four feet of surficial alluvial loamy soils, and the relatively shallow depth of proposed excavation; the project would have a very low probability of uncovering paleontological resources. For these reasons, the impact would be less than significant. **(Less-than-Significant Impact)**

4.5.2.5 *Tribal Cultural Resources*

As described previously, a formal request under AB 52 for notification of projects in the geographic area that includes the project site has not been received by the County of Santa Clara. Native American Consultation to meet the intent of AB 52 was initiated with the NAHC and Amah Mutsun Tribal Band representatives. The representatives noted that burials have been encountered in the vicinity during earth moving activities occurring to a depth greater than 10 inches. Given that the project site has been under active cultivation (including ground ripping to a depth of four feet) and/or developed since the late 1800s, it is unlikely that tribal cultural resources as defined under AB 52 would be present at the project site. In the event that Native American artifacts or human remains are encountered, implementation of MM CUL-1.1 through MM CUL-1.3, and MM CUL-2.1 would reduce impacts to a less-than-significant level. **(Less-than-Significant Impact)**

4.6 ENERGY

The impact discussion within this section is based primarily on California Emissions Estimator Model (CalEEMod) data included as Appendix D. The program was utilized in May of 2018 to calculate construction and operational emissions for the proposed project.

4.6.1 Environmental Setting

4.6.1.1 *Regulatory Framework*

State

Renewables Portfolio Standard Program

In 2002, California established its Renewables Portfolio Standard (RPS) Program, with the goal of increasing the percentage of renewable energy in the state's electricity supply. In 2008, Executive Order S-14-08 was signed into law requiring retail sellers of electricity to serve 33 percent of their load with renewable energy by 2020. In October 2015, SB 350 was enacted to codify California's climate and clean energy goals. SB 350 requires retail sellers of electricity and publicly owned utilities to procure 50 percent of their electricity from renewable sources by 2030.

Building Codes

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6, of the California Code of Regulations (Title 24), were adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every three years, and the 2016 Title 24 updates went into effect on January 1, 2017.[25] Compliance with Title 24 is mandatory at the time new building permits are issued by local governments.[26]

The California Green Building Standards Code (CalGreen) establishes green building standards for buildings in California and covers five categories: planning and design, energy efficiency, water efficiency and conservation, material resource efficiency, and indoor environmental quality.

Santa Clara County Green Building Ordinance

Section C3-30 of the County Code adopts the CalGreen standards with local amendments. CalGreen mandatory measures apply to buildings less than 25,000 square feet and additional Tier 1 measures apply to buildings greater than 25,000 square feet in addition to the mandatory measures for smaller buildings. In addition, there are specific requirements to include bicycle parking and electric vehicle parking. Development projects must complete the applicable CalGreen checklist and submit it to the County for review as part of the building permit process.

[25] California Building Standards Commission. "Welcome to the California Building Standards Commission". Accessed February 6, 2018. http://www.bsc.ca.gov/.
[26] California Energy Commission (CEC). "2016 Building Energy Efficiency Standards". Accessed February 6, 2018. http://www.energy.ca.gov/title24/2016standards/index.html.

4.6.1.2 *Existing Conditions*

A limited amount of electricity is consumed at the project site by the existing uses associated with the barn and office. Electricity is also consumed by the two, small illuminated greenhouses at the project site. Agricultural equipment and vehicle trips to and from the project site consume diesel fuel and gasoline.

Electricity

In 2016, California produced approximately 93 percent of the electricity it consumed and the rest was imported. California's non carbon dioxide-emitting electric generation (from nuclear, large hydroelectric, solar, wind, and other renewable sources) accounted for 50 percent of total in-state generation for 2016, compared to 40 percent in 2015.[27] Electricity supplied from out-of-state, coal-fired power plants has continued to decrease since 2006, following the enactment of a state law requiring California utilities to limit new long-term financial investments only to power plants that meet California emissions standards.[28]

California's total electric generation in 2016 was 290,567 gigawatt-hours (GWh), which was down 1.6 percent from 2015's total generation of 295,405 GWh. California's in-state electric generation was up by approximately one percent at 198,227 GWh compared to 196,195 GWh in 2015, and energy imports were down by 6,869 GWh to 92,341 GWh.[29] In 2016, total in-state solar generation increased 31.5 percent from 2015 levels and wind generation increased 10.8 percent.

Growth in annual electricity consumption declined between 2015 and 2016 reflecting increased energy efficiency and higher self-generation from solar photovoltaic power systems. Per capita drops in electrical consumption are predicted through 2027 as a result of energy efficiency gains and increased self-generation (particularly from photovoltaic systems).[30] Due to population increases, however, it is estimated that future demand in California for electricity will grow at approximately one percent each year through 2027, and that 319,256 GWh of electricity would be utilized in the state in 2027.[31] In 2016, a total of approximately 16,800 GWh of electricity was consumed in Santa Clara County.[32]

The community-owned Silicon Valley Clean Energy (SVCE) is the electricity provider for unincorporated portions of Santa Clara County including the project site.[33] SVCE generates its electricity from 100 percent carbon-free sources; with 50 percent from solar and wind, and 50

[27] CEC. "Total System Electric Generation". Accessed February 13, 2018. http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html.
[28] U.S. Energy Information Administration (EIA). "California State Profile and Energy Estimates Profile Analysis". Accessed February 13, 2018. https://www.eia.gov/state/analysis.php?sid=CA#40.
[29] CEC. "Total System Electric Generation". Accessed February 14, 2018. http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html.
[30] CEC. *California Energy Demand Updated Forecast, 2017-2027*. Accessed February 14, 2018. http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN214635_20161205T142341_California_Energy_Demand_Updated_Forecast.pdf.
[31] CEC. *California Energy Demand Updated Forecast, 2017-2027*. Accessed February 14, 2018. http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN214635_20161205T142341_California_Energy_Demand_Updated_Forecast.pdf.
[32] CEC. Energy Consumption Data Management System. "Electricity Consumption by County". Accessed July 13, 2016. http://ecdms.energy.ca.gov/elecbycounty.aspx.
[33] SVCE. "Frequently Asked Questions". Accessed October 9, 2017. https://www.svcleanenergy.org/faqs.

percent from hydroelectric. Customers have the option to enroll in the GreenPrime plan, which generates its electricity from 100 percent renewable sources such as wind and solar.

4.6.1.3 *Natural Gas*

PG&E provides natural gas services within unincorporated Santa Clara County. In 2016, approximately three percent of California's natural gas supply came from in-state production, while 97 percent was imported from other western states and Canada.[34] California's natural gas is supplied by interstate pipelines, including the Mojave Pipeline, Transwestern Pipeline, and the Baja Norte/North Baja Pipeline. As a result of improved access to supply basins, as well as pipeline expansion and new projects, these pipelines currently have excess capacity.[35]

In 2016, residential and commercial customers in California used 29 percent, power plants used 32 percent, and the industrial sector used 37 percent. Transportation accounted for one percent of natural gas use in California. In 2016, California consumed approximately 2,236,258,609 million Btu (MMBtu)[36] of natural gas; a slight decrease from 2015 when 2,363,349,859 MMBtu[37] were consumed.[38] In Santa Clara County, a total of 42,106,938 MMBtu of natural gas were consumed in 2016, which is about three percent of the state's total.[39]

Overall natural gas demand in California is anticipated to decrease slightly through 2028. This decline is due to on-site residential, commercial, and industrial electricity generation; aggressive energy efficiency programs; and a decrease in demand for electrical power generation as a result of the implementation of state-mandated RPS targets (as the state moves to power generation resources that result in less GHG emissions than natural gas). [40]

4.6.1.4 *Fuel for Motor Vehicles*

California accounts for more than one-tenth of the United States' crude oil production and petroleum refining capacity.[41] In 2017, 15 billion gallons of gasoline were sold in California.[42] The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has

---

[34] California Gas and Electric Utilities. 2016 California Gas Report. Accessed February 13, 2018. http://docketpublic.energy.ca.gov/PublicDocuments/16-BSTD-06/TN212364_20160720T111050_2016_California_Gas_Report.pdf.
[35] Ibid.
[36] 2,177,467 million cubic feet = 2,177,467,000,000 cubic feet * 1,027 = 2,236,258,609,000,000 /1,000,000 = 2,236,258,609 MMBtu
[37] 2,301,217 million cubic feet = 2,301,217,000,000 *1,027 = 2,363,349,859,000,000/1,000,000 = 2,363,349,859 MMBtu
[38] EIA. "Natural Gas Delivered to Consumers in California". Accessed May 8, 2018. http://www.eia.gov/dnav/ng/ng_sum_lsum_dcu_SCA_a.htm.
[39] CEC. "Natural Gas Consumption by County". Accessed March 1, 2018. http://ecdms.energy.ca.gov/gasbycounty.aspx.
[40] California Gas and Electric Utilities. 2017 Natural Gas Market Trends and Outlook. Accessed April 3, 2018. http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-04/TN222400_20180131T074538_STAFF_FINAL_REPORT_2017Natural_Gas_Market_Trends_and_Outlook.pdf.
[41] EIA. *California State Profile and Energy Estimates: Profile Analysis.* Accessed February 8, 2018. http://www.eia.gov/beta/state/analysis.cfm?sid=CA
[42] California Department of Tax and Fee Administration. Net Taxable Gasoline Gallons. Accessed August 28, 2018. http://www.cdtfa.ca.gov/taxes-and-fees/MVF_10_Year_Report.pdf.

steadily increased from about 13.1 miles-per-gallon (mpg) in the mid-1970s to 22 mpg in 2016.[43] In 2012, the federal government raised the fuel economy standard to 54.5 miles per gallon for cars and light-duty trucks by Model Year 2025.[44]

4.6.2 Energy Impacts

4.6.2.1 *Thresholds of Significance*

Based on Appendix F of the CEQA Guidelines, and for the purposes of this EIR, a project will result in a significant energy impact if the project will:

- Result in a wasteful, inefficient, or unnecessary consumption of energy; or
- Result in a substantial increase in demand upon energy resources in relation to projected supplies.

4.6.2.2 *Wasteful or Unnecessary Energy Consumption*

Construction

The overall construction schedule and process is designed to be efficient in order to avoid excess monetary costs. That is, equipment and fuel are not typically used wastefully on the site because of the added expense associated with renting the equipment, as well as maintaining and fueling it; therefore, opportunities for efficiency gains during construction are limited.

The project includes several measures that would improve the efficiency of the construction process. Implementation of the BAAQMD Basic Construction Mitigation Measures identified in Section 3.3 Air Quality, would restrict excessive equipment use by reducing idling times to five minutes or less and would require contractors to post signs on the project site reminding workers to shut off idle equipment. In addition, project conditions of approval require that equipment be selected to reduce emissions during construction. For these reasons, construction activities would not use fuel or energy in a wasteful manner. **(Less-than-Significant Impact)**

Operation

The proposed project would meet the requirements of Title 24 and CalGreen, which generally requires enhanced insulation and design provisions to minimize wasteful energy consumption. Green-building measures and design features incorporated into the project could include, but are not limited to:

- Solar-ready roof;
- Salvage or recycle at least 50 percent of construction waste;
- Water-efficient plumbing fixtures;

[43] EPA. Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles. Accessed August 28, 2018. https://www.bts.gov/content/average-fuel-efficiency-us-light-duty-vehiclesl.
[44] National Highway Traffic Safety Administration. *Obama Administration Finalizes Historic 54.5 mpg Fuel Efficiency Standards.* August 28, 2012. Accessed February 8, 2018. http://www.nhtsa.gov/About+NHTSA/Press+Releases/2012/Obama+Administration+Finalizes+Historic+54.5+mpg+Fuel+Efficiency+Standards.

- Energy-efficient lighting fixtures; and
- Low-water landscaping and water-efficient irrigation design.

Incorporation of these measures and compliance with Title 24 and CalGreen Requirements would result in less-than-significant impacts with regard to energy inefficiency and waste. **(Less-than-Significant Impact)**

4.6.2.3 *Increase in Demand*

Operation of the project would consume energy for multiple purposes including, building heating and cooling, lighting (including lighting at the proposed greenhouses), and appliance use. Operational energy would also be consumed by employee vehicle use to and from the site.

Table 4.6-1: Annual Operational Energy Demand

Development Scenario	Electricity (kWh)	Natural Gas (kBtu)	Gasoline (gallons)
Proposed Project[1]	515,124[2]	140,230[3]	8,190[4]

[1] The energy demand is a conservative estimate and does not include existing uses at the site. Further, vehicle trips by seasonal workers would remain unchanged from current conditions; therefore, associated gasoline use was not estimated.

[2] Conservatively based on a total of 363 lights (400 watt) used for an average of 8 hours per day, in addition to the lighting for the research facility.

[3] Based on CalEEMod calculations for an unrefrigerated warehouse for the greenhouses, which will be heated by natural gas in the winter.

[4] Based on the vehicle miles traveled (VMT) in CalEEMod for the 10,000 square foot seed research facility. 180,181 VMT/22 mpg = 8,190.

As discussed previously, California's total system electric generation in 2016 was 290,567 GWh (down 1.6 percent from 2015). Efficiency and production capabilities would help meet electricity demand in the future.[45] Thus, the proposed project's increase in annual electricity use, would not result in a significant increase in demand on electrical energy resources in relation to projected supply statewide.

It is assumed that energy efficiency technology and the RPS targets are likely to reduce demand for natural gas in the state in the future. Based on the relatively small increase in natural gas demand from the project (approximately 15 MBtu per year), and compared to the growth trends in natural gas supply and the existing available supply in California, the proposed project would not result in a significant increase in natural gas demand relative to projected supply.

Project trips would increase gasoline use at the site by approximately 8,190 gallons per year. This increase is small, however, when compared to the annual statewide sales of 15 billion gallons. For these reasons, the proposed project would not result in the wasteful use of energy or a substantial increase in demand upon energy resources in relation to projected supplies. **(Less-than-Significant Impact)**

[45] CEC. *2017 Integrated Energy Policy Report*. March 2018. http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-01/TN223085_20180329T142223_Exeutive_Summary_of_the_2017_Integrated_Energy_Policy_Report.pdf.

4.7 GEOLOGY AND SOILS

4.7.1 Environmental Setting

4.7.1.1 *Regulatory Framework*

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed following the 1971 San Fernando earthquake. The act ensures public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. Alquist-Priolo maps are distributed to affected cities, counties, and state agencies for their use in planning and controlling new construction.

Seismic Hazards Mapping Act

Following the 1989 Loma Prieta earthquake, the Seismic Hazards Mapping Act (SHMA) was passed. The SHMA directs the Department of Conservation, California Geological Survey to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. It also requires that agencies only approve projects in seismic hazard zones following site-specific geotechnical investigations to determine if the identified hazard is present and requires the inclusion of measures to reduce earthquake-related hazards.

California Building Standards Code

The California Building Standards Code as adopted by the County with local amendments (CBC),[46] contains the regulations that govern the construction of buildings in California and prescribes standards for constructing safer buildings. The CBC contains provisions for earthquake safety based on factors including occupancy type, soil and rock profile, ground strength, and distance to seismic sources. The CBC requires that a site-specific geotechnical investigation report be prepared by a licensed professional for proposed developments to evaluate seismic and geologic conditions that may affect a project, such as surface fault ruptures, ground shaking, liquefaction, differential settlement, lateral spreading, expansive soils, and slope stability. The CBC is updated every three years; the current version is the 2016 CBC.

California Occupational Safety and Health Regulations

Excavation, shoring, and trenching activities during construction are subject to occupational safety standards for stabilization by the California Division of Occupational Safety and Health (Cal/OSHA) under Title 8 of the California Code of Regulations and Excavation Rules. These regulations minimize the potential for instability and collapse that could injure construction workers on the site.

[46] County of Santa Clara Ordinance Code, Division C3.

Local

County of Santa Clara Geologic Ordinance

The County's policies and standards pertaining to geologic hazards and associated investigation and mitigation standards are contained in Title C, Division C12, Chapter IV of the County of Santa Clara Ordinance Code. The geologic ordinance contains minimum requirements for geologic evaluation of proposed land uses in areas identified in the County Geologic Hazard Zones map.

On-site Wastewater Treatment Systems (Septic Systems) Ordinance

Division B11, Chapter IV, of the County Code establishes regulations for the approval, installation, and operation of on-site wastewater treatment systems (OWTS) within unincorporated Santa Clara County, consistent with the Central Coast Regional Water Quality Control Board (RWQCB) standards and water quality plans. Division B11, Chapter IV was adopted to prevent the creation of health hazards and nuisance conditions and to protect surface and groundwater quality. The accompanying Onsite Systems Manual to Division B11 provides policies, procedures, and technical details related to permitting, design, construction, and operation of on-site septic systems. Requirements for soil percolation, groundwater separation, ground slope, and setbacks are specified.

Prior to installation of an OWTS, a permit must be obtained from the County Department of Environmental Health (DEH). Permits will only be issued in areas of the County where a sanitary sewer is not available. OWTS cannot be used if soil conditions, topography, high groundwater or other factors indicate this method of sewage disposal is unsuitable. OWTS are not allowed within 100 feet of a water well, 50 feet of a drainage swale, or on soils where a high water table extends close to the land surface.

Section B11-60 of the County Code applies to OWTS with design wastewater flows of up to 10,000 gallons per day (gpd). Additionally, an operating permit and regular inspections are required for OWTS treating flows greater than 2,500 gpd. Alternative septic systems of any size (necessary if certain setbacks cannot be maintained, such as separation to high seasonal groundwater or steep slopes) can also require the issuance of a renewable operating permit, depending on the nature of the alternative treatment methods.[47]

Section B11-86 of the County Code addresses abandonment of OWTS and requisite DEH permitting. Abandoned OWTS must have their sewage removed and disposed of in a County-approved manner. The tank top and bottom must be crushed and backfilled. Abandonment requires issuance of a septic tank abandonment permit from the DEH.

4.7.1.2 *Existing Conditions*

Geology

The project site is located within the seismically active San Francisco Bay Region. The project site is not within a defined Alquist-Priolo Earthquake Fault Zone and no active faults have been mapped on-site. Therefore, the risk of fault rupture at the site is low. The faults in the region are, however,

[47] DEH. "Introducing the NEW Santa Clara County Onsite Wastewater Treatment System Ordinance". FAQ. Accessed August 28, 2018. https://www.sccgov.org/sites/cpd/programs/LU/Documents/LU_OWTS_FAQS.pdf

capable of generating earthquakes of magnitude 7.0 or higher and strong to very strong ground shaking would be expected to occur at the project site during a major earthquake.

The northeastern portion of the larger 22-acre project (in aggregate) site is located within a County designated-Liquefaction Hazard Zone; however, the 3.5-acre project site is not within this hazard zone.[48] On-site soils consist of loam but deeper soils could potentially consist of clay and be expansive.[49]

Mineral Resources

The project site is located in an area zoned MRZ-1 for aggregate materials by the State of California.[50] MRZ-1 zones are areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence. The area is not known to support significant mineral resources of any type.

4.7.2 Geology and Soils Impacts

4.7.2.1 *Thresholds of Significance*

For the purposes of this EIR, a geology and soils impact is considered significant if the project 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 Division of Mines and Geology Special Publication 42);
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction;
    - Landslides;
- Result in substantial soil erosion or the loss of topsoil; or
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Section 1803.5.3 of the California Building Code (2016), creating substantial risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.
- Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state; or

[48] Santa Clara County. *Hazards Zones Maps.* 2012.
[49] AEI Consultatns. *Phase I Environmental Site Assessment.* August 23, 2013.
[50] California Department of Mines and Geology. *Generalized Mineral Land Use Classification Map of the Monterey Bay Production-Consumptions Regions North Half.* 1999.

- Result in the loss of availability of locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

4.7.2.2 *Geologic Conditions Impacts*

The project site is located in the seismically active San Francisco Bay Area.[51] No active faults are known to cross the project site, and the existing seismic hazards that exist in the project area from nearby faults would not be exacerbated by the project such that it would impact (or worsen) off-site conditions. The project would construct buildings within this seismically active zone. Seismic hazards would be reduced to a less-than-significant level with implementation of CBC requirements. Further, the site is flat and not subject to landslides or lateral spreading. The 3.5-acre project site is not within a liquefaction hazard zone or in an area subject to subsidence such that the project would exacerbate those conditions off-site. Therefore, the impact would be less than significant. **(Less-than-Significant Impact)**

4.7.2.3 *Erosion Impacts*

The proposed project would involve grading as part of site preparation and shallow excavation for building foundations. The project would be required to minimize erosion hazards through the implementation of a Stormwater Pollution Prevention Plan (SWPPP) under the National Pollutant Discharge Elimination System (NPDES) General Construction Permit, and through conformance with grading and excavation requirements in the County Code (as discussed in Section 4.10 Hydrology and Water Quality). The project, therefore, would not result in a significant impact from soil erosion. **(Less-than-Significant Impact)**

4.7.2.4 *Expansive Soils*

The proposed project includes construction of foundations for a research building and the two sets of greenhouse structures. As mentioned previously, deeper on-site soils could have the potential to be expansive and would require special building design considerations that would be outlined within the projects site-specific geotechnical investigation (which is required to be prepared by the CBC). Hazards associated with expansive soils would be reduced to a less-than-significant level with implementation of recommendations within the geotechnical investigation and CBC requirements. Compliance with CBC requirements would also ensure that development of the proposed project would not exacerbate on-site expansive soils-related hazards. **(Less-than-Significant Impact)**

4.7.2.5 *Septic System Compatibility with On-Site Soils*

The project proposes abandonment of an existing septic system (referred to as an OWTS) and installation of a new system to accommodate wastewater from the agricultural research facility. The OWTS abandonment and installation would be reviewed through the County DEH's permit process, consistent with Section B11-60 through B11-95 of the County Ordinance Code. Soils at the project site and the design of the system would be reviewed for consistency with OWTS requirements to ensure health hazards and nuisance conditions would not occur and that surface water and

[51] U.S. Geological Survey. "Earthquake Outlook for the San Francisco Bay Region 2014-2043". Fact Sheet 2016-3020. Accessed February 6, 2018. https://pubs.usgs.gov/fs/2016/3020/fs20163020.pdf.

groundwater would not be significantly impacted. Testing as part of the permit process would ensure that on-site soils are capable of adequately supporting the OWTS.

The proposed 375 gpd flows would require review, permitting, and potentially (if certain alternative methods are used or if needed setbacks cannot be maintained) a renewable operating permit with inspections as required by the DEH.[52] Because the project would abandon the existing OWTS per County standards and properly permit the new system, impacts would be less than significant. **(Less-than-Significant Impact)**

4.7.2.6 *Minerals Impacts*

The proposed project site does not have any known mineral resources, and there are no mineral extraction sites present in the immediate area around the project. The proposed project, therefore, would not impact mineral resources. **(No Impact)**

4.7.2.7 *Existing Geologic Conditions Affecting the Project Site*

On December 17, 2015, the California Supreme Court issued an opinion in *CBIA vs. BAAQMD* holding that CEQA is primarily concerned with the impacts of a project on the environment and generally does not require an analysis of existing conditions on a project's future users or residents unless the project risks exacerbating those environmental hazards or risks that already exist. Nevertheless, the County has policies and regulations that address existing conditions affecting a proposed project, which are discussed below.

As discussed previously, the site is located within a seismically active region and would experience intense ground shaking in the event of a large earthquake. The ground shaking could damage the proposed project structures. To address this, the project would be required to be constructed consistent with the CBC and County Code, which contains provisions for earthquake safety. As a result, future site occupants would not be exposed to geologic hazard risks, consistent with General Plan policies.

[52] DEH. "Introducing the NEW Santa Clara County Onsite Wastewater Treatment System Ordinance". FAQ. Accessed August 28, 2018. https://www.sccgov.org/sites/cpd/programs/LU/Documents/LU_OWTS_FAQS.pdf

4.8 GREENHOUSE GAS EMISSIONS

The impact discussion within this section is based partly on CalEEMod data included as Appendix D. The program was utilized in May of 2018 to calculate construction and operational emissions for the proposed project.

4.8.1 Environmental Setting

4.8.1.1 *Regulatory Framework*

State

Global Warming Solutions Act

Under the California Global Warming Solution Act, also known as Assembly Bill (AB) 32, the California Air Resources Board (CARB) established a statewide greenhouse gas (GHG) emissions cap for 2020, adopted mandatory reporting rules for significant sources of GHG emissions, and adopted the Climate Change Scoping Plan, identifying how GHG emission reductions will be achieved.

In 2016, Senate Bill (SB) 32 was enacted, amending the California Global Warming Solution Act. SB 32, and accompanying Executive Order B-30-15, require CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. CARB updated its Climate Change Scoping Plan in December 2017 to express the 2030 statewide target in terms of million metric tons of carbon dioxide equivalent (MMTCO2e). Based on the emissions reductions directed by SB 32, the annual 2030 statewide target emissions level for California is 260 MMTCO2e.

Senate Bill 375

SB 375, known as the Sustainable Communities Strategy and Climate Protection Act, was enacted in 2008. SB 375 builds upon AB 32 by requiring CARB to develop regional GHG emissions reduction targets for automobile and light truck sectors for 2020 and 2035, as compared to 2005 emissions levels. The per-capita GHG emissions reduction targets for passenger vehicles in the San Francisco Bay Area include a seven percent reduction by 2020 and a 15 percent reduction by 2035.

Regional

Bay Area 2017 Clean Air Plan

Regional air quality management districts, such as BAAQMD, must prepare air quality plans specifying how state and federal air quality standards will be met. BAAQMD's most recently adopted plan is the Bay Area 2017 Clean Air Plan (2017 CAP). The 2017 CAP focuses on two related BAAQMD goals: protecting public health and protecting the climate. To protect the climate, the 2017 CAP includes control measures designed to reduce emissions of methane and other super-GHGs that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

CEQA Air Quality Guidelines

The BAAQMD CEQA Air Quality Guidelines are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the San Francisco Bay Area. The County of Santa Clara and other jurisdictions in the San Francisco Bay Area Air Basin utilize the thresholds and methodology for assessing GHG impacts developed by BAAQMD in its CEQA Air Quality Guidelines. The guidelines include information on legal requirements, BAAQMD rules, methods of analyzing impacts, and recommended mitigation measures.

4.8.1.2 *Existing Conditions*

GHG emissions at the project site occur as a result of combustion of fuels for vehicle use and farm equipment, as well as from electricity use as part of greenhouse and interior lighting and operation of small appliances.

4.8.1.3 *Existing Conditions*

4.8.2 Greenhouse Gas Emissions Impacts

4.8.2.1 *Thresholds of Significance*

For the purposes of this EIR, a greenhouse gas emissions impact is considered significant if the project would:

- Generate a 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 described previously, BAAQMD adopted GHG emissions thresholds of significance to assist in review of projects under CEQA. These thresholds were designed to establish the level at which GHG emissions would cause significant environmental impacts. The GHG emissions thresholds identified by BAAQMD are 1,100 metric tons of carbon dioxide equivalent ($MTCO_2e$) per year or 4.6 $MTCO_2e$ per service population per year.[53]

Given that the project will not be constructed and operational prior to 2020, the County has developed updated GHG efficiency targets reflecting statewide goals beyond 2020. GHG emissions resulting from construction (amortized over 30 years) and operation of the project have been compared to an efficiency metric threshold consistent with state goals detailed in SB 32 and Executive Order B-30-15 reduce GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. Though BAAQMD has not yet published a quantified threshold for 2030, this EIR's assessment uses a Substantial Progress efficiency metric of 2.6 $MTCO_2e$/year/service population. This is calculated for 2030 based on the GHG reduction goals of

[53] A project that is in compliance with a qualified GHG Reduction Strategy is considered to have a less than significant GHG impact regardless of its emissions; however, the County does not have a qualified GHG Reduction Strategy.

SB32/EO B-30-15, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels, and used for the purposes of this analysis.[54]

4.8.2.2 *GHG Emissions Impact*

. GHG emissions associated with construction would be 67 $MTCO_2e$, as described in Appendix D. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips that would occur over the 18 month construction timeframe for the project. Neither BAAQMD nor the County of Santa Clara have significance thresholds for construction-related GHG emissions. BAAQMD does, however, encourage the incorporation of best management practices to reduce GHG emissions during construction, including using at least 10 percent local building materials and recycling or reusing at least 50 percent of construction waste or demolition materials, which will be a condition of project approval.

CalEEMod was used to calculate operational period GHG emissions associated with operation of the proposed project. Annual net emissions resulting from project operation are shown in Table 4.8-1. A service population of 25 employees is assumed for the purposes of this analysis.

Table 4.8-1: Annual Project GHG Emissions (in MTCO2e)

Source Category	Total
Area	13
Energy Consumption[1]	8
Mobile	65
Solid Waste Generation	0.4
Water Usage	14
Construction (amortized over 30 years)	1.2
Total:	101.6
Project MT of CO_2e/year/service population	**4.1**
Substantial Progress 2030 Threshold	2.6
Significant?	***Yes***

[1] Energy consumption estimates were adjusted to account for SVCE's carbon-free electricity sources.

As shown above, emissions resulting from operation of the proposed project would exceed the Substantial Progress threshold of 2.6 $MTCO_2e$/year/service population for 2030 emissions under SB 32. Because the threshold would be exceeded, the impact is significant.

Impact GHG-1: The project would generate GHG emissions in excess of the Substantial Progress 2030 threshold. GHG emissions are, by their nature, cumulative. As a result, the

[54] Association of Environmental Professionals. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. 2016.

project would also result in a cumulatively considerable contribution to overall GHG emissions. **(Significant Impact)**

Mitigation Measure: The following mitigation measure would require preparation and implementation of a GHG-reduction plan, which would reduce project-related GHG emissions to a less-than-significant level.

MM GHG-1.1: Prior to issuance of occupancy permits for project, the applicant shall hire a qualified GHG specialist to prepare a GHG-reduction plan addressing emissions for the 30-year operational term of the project. The plan shall calculate final emissions from construction and operations and propose quantifiable strategies to ensure that the project-related GHG emissions do not exceed the 2030 threshold of 2.6 MTCO2e/year/service population. The GHG-reduction plan shall include, but not be limited to, the following:

Construction-Related GHG Reduction Measures

- To the extent feasible, diesel-powered construction equipment shall be fueled with renewable diesel fuel. The renewable diesel fuel must be compliant with California's Low Carbon Fuel Standards. Feasibility shall be determined by the County in coordination with the applicant and the qualified GHG specialist.
- Implement a construction-worker carpool and transit program to encourage construction workers to carpool and take public transit to commute to and from the project site. The program shall also reimburse workers for any expenses they incur from using local public transit to commute to the construction site.
- Install a temporary electric power connection at the construction site to power any electric power equipment used during project construction (e.g., welders, lights) in lieu of any stationary generators powered by fossil fuels.

Operational GHG Reduction Measures

- Implement a transportation demand management program to increase carpool options and transit use to decrease GHG emissions from vehicle trips.
- Install electric tankless and/or rooftop solar water heating systems.
- Provide electrical outlets at the exterior of all project buildings and in outdoor activity areas to allow sufficient powering of electric landscaping equipment.
- Use water-efficient irrigation systems (i.e., drip systems with smart irrigation meters) and install drought tolerant plants in landscaped areas.
- Install a grey water system to irrigate outdoor landscaping and/or to use for indoor non-potable water uses.

- To reduce landfill waste generated during operation of the project, include separate recycling and waste containers to support recycling collection service. Provide on-site composting for organic material
- Include any other GHG reduction measures that the applicant deems feasible and approved by Department of Planning and Development staff.

Because vehicle trips would constitute the majority of the project's GHG emissions, and given the GHG-free electricity provided to the site, it is anticipated that the project would be unable to reduce the operations-related incremental increase of GHG emissions to below the threshold of 2.6 MTCO2e/year/service population using measures described in MM GHG-1.1. Thus, the project shall offset emissions above the threshold for the 30-year term of project operation. Any offset of operational emissions shall be demonstrated to be permanent, verifiable, and enforceable. To the extent feasible, as determined by Department of Planning and Development staff in coordination with BAAQMD, offsets shall be implemented locally. Offsets may include but are not limited to, the following (in order of preference):

- Fund local projects (subject to review and approval by BAAQMD) that would result in a permanent, verifiable, and enforceable reduction in GHG emissions - If BAAQMD or the County of Santa Clara develops a GHG mitigation fund, the project may instead pay into this fund to offset project incremental GHG emissions in excess of the threshold.
- Purchase of carbon credits to offset project incremental emissions to below the significance threshold - Carbon offset credits must be verified and registered with The Climate Registry, the Climate Action Reserve, or other California Air Resources Board. The offset credits purchased must be consistent with the policies and guidelines of AB 32, or available through a County- or BAAQMD-approved local GHG mitigation bank or fund. Proof of payment shall be Department of Planning and Development staff prior to issuance of occupancy permits.

If BAAQMD updates its CEQA Air Quality Guidelines at the time the GHG-reduction plan is being prepared or offset fees are being paid, and County Department of Planning and Development staff (in consultation with BAAQMD) determines that those guidelines include a project-level GHG threshold that is more appropriate for this project, it may be utilized in place of the threshold used in this EIR. Any revision to the project-level GHG threshold shall only be made after public notice and an administrative hearing.

Implementation of MM GHG-1.1 would reduce GHG emissions impacts to a less-than-significant level. **(Less-than-Significant Impact with Mitigation)**

4.8.2.3 *Consistency with Plans and Policies*

The project supports the goals of the 2017 CAP of protecting public health and protecting the climate consistent with 2017 CAP by:

- Implementing BAAQMD Basic Construction Mitigation Measures to reduce emissions during construction;
- Complying with applicable regulations that would result in energy and water efficiency including Title 24 and CalGreen.

For these reasons, the proposed project would not conflict with implementation of the 2017 CAP. **(Less-than-Significant Impact)**

4.9 HAZARDS AND HAZARDOUS MATERIALS

The discussion within this section is based on information contained within a Phase I Environmental Site Assessment (including concurrent limited Phase II testing) prepared by AEI Consultants in August 2013, included as Appendix F.

4.9.1 Environmental Setting

4.9.1.1 *Regulatory Framework*

Federal and State

Hazardous Materials Regulatory Overview

The storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated under federal and state laws. Federal regulations and policies related to development include the Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund, and the Resource Conservation and Recovery Act. In California, the EPA has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (CalEPA). In turn, local agencies have been granted responsibility for implementation and enforcement of many hazardous materials regulations under the Certified Unified Program Agency (CUPA) program.

Worker health and safety and public safety are key issues when dealing with hazardous materials. Proper handling and disposal of hazardous material is vital if it is disturbed during project construction. The California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) enforces state worker health and safety regulations related to construction activities. Regulations include exposure limits, requirements for protective clothing, and training requirements to prevent exposure to hazardous materials. Cal/OSHA also enforces occupational health and safety regulations specific to lead and asbestos investigations and abatement.

Cortese List (Government Code Section 65962.5)

Government Code Section 65962.5 requires CalEPA to develop and update a list of hazardous waste and substances sites, known as the Cortese List. The Cortese List is used by the state, local agencies, and developers to comply with CEQA requirements. The Cortese List includes hazardous substance release sites identified by the Department of Toxic Substances Control (DTSC), State Water Resources Control Board (SWRCB), and CalRecycle.

California Accidental Release Prevention Program

The California Accidental Release Prevention (CalARP) Program aims to prevent accidental releases of regulated hazardous materials that represent a potential hazard beyond the boundaries of property. Facilities that are required to participate in the CalARP program use or store specified quantities of toxic and flammable substances (hazardous materials) that can have off-site consequences if accidentally released. The County of Santa Clara Department of Environmental Health reviews CalARP risk management plans in its role as the CUPA.

4.9.1.2 *Existing Conditions*

The project site has been under agricultural use since at least the early 1900s. There is a potential that past and current use of agricultural chemicals (such as pesticides, herbicides and fertilizers) have impacted the soils and/or groundwater at the subject property. As such, soil and groundwater (from the on-site well) samples from the property were collected as part of limited Phase II sampling. Arsenic and the pesticide dieldrin were found in soil samples at levels above specified Environmental Screening Levels (ESLs). Dissolved copper was found in one water sample above the Drinking Water Final ESL but below the Drinking Water Toxicity ESL, which is less conservative. Workers at the site drink bottled water. Groundwater flow in the project area is to the southeast (at an estimated depth of 22 feet below ground surface).

There are no hazardous materials release sites within 0.15 mile of the proposed project site, which is assumed as a distance where the project site could have been contaminated as a result of off-site releases. There are two past leaking underground storage tank sites located approximately 0.25 mile west at 1350 Pacheco Pass Highway (Gilroy Foods) and 1351 Pacheco Pass Highway (Westside Transport). Both sites were cleaned up and issued case closure letters in 1989 and 1999, respectively.[55] The project site is not on the Cortese List.[56]

4.9.2 Hazards and Hazardous Materials Impacts

4.9.2.1 *Thresholds of Significance*

For the purposes of this EIR, a hazards and hazardous materials impact is considered significant if the project would:

- Create a significant hazard to the public or the environment through 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 one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, 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;

[55] DTCS. Envirostor Database. Accessed May 18, 2018. http://www.envirostor.dtsc.ca.gov/public/map/?myaddress=6640+Holsclaw+road.
[56] DTSC. "Hazardous Waste and Substances Site List (Cortese)". Accessed March 27, 2018. http://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=cortese&site_type=csites,open,fuds,close&status=act,bklg,com,colur&reporttitle=hazardous+waste+and+substances+site+list+(cortese).

- 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.

4.9.2.2 *Routine Transport, Use, or Disposal of Hazardous Materials*

The proposed project would continue to use agricultural chemicals consistent with current practices at the site, in compliance with state and federal requirements. The seed research facility would use approximately one liter per year of a chemical (Carborundum) to inoculate seeds. Any waste associated with the chemical would be disposed off-site in an approved manner. It would not be discharged into the ground or septic system.

Limited amounts of cleaning materials, as well as maintenance-related and landscape chemicals, would occur as part of the new seed research facility. These materials would be stored, used, and disposed of in compliance with product recommendations and state and federal requirements. As a result, substantial hazardous emissions or hazards due to accidental releases from use, storage, or transport would not occur. Thus, there would not be a significant risk to the public, and the project's impact would be less than significant. **(Less-than-Significant Impact)**

4.9.2.3 *Hazardous Materials Release*

As discussed previously, the site has been under agricultural use for several decades. Development of the project site would require limited grading and excavation, which could expose construction workers, area residents, and the environment to potentially contaminated soil.

Impact HAZ-1: Implementation of the proposed project could expose construction workers, area residents, and the environment to contaminated soil during excavation and grading activities. **(Significant Impact)**

Mitigation Measures: To reduce impacts to a less-than-significant-level, the following measures shall be implemented prior to and during construction to avoid and mitigate for impacts from soils contamination.

MM HAZ-1.1: Prior to issuance of building permits, soil samples will be collected and analyzed by a qualified environmental professional to determine if contaminated soils are located in areas of the site that will be disturbed by construction activities. If contaminants are detected at levels that exceed regulatory thresholds for construction workers or adjacent residents, the extent of contamination shall be identified, and recommendations for a Health and Safety Plan and Soil Management Plan shall be implemented, if necessary. This work shall be performed under the oversight of the Santa Clara County DEH, with copies of documentation provided to the Department of Planning and Development staff.

MM HAZ-1.2: If necessary, the Health and Safety Plan shall include appropriate protocols for working in contaminated soils. The project contractor will be responsible for the

health and safety of their employees as well as for compliance with applicable local, state, and federal regulations. The Health and Safety Plan shall be submitted to the Santa Clara County DEH and Department of Planning and Development for review and approval prior to issuance of a grading permit or building permit. **(Less-than-Significant Impact with Mitigation)**

4.9.2.4 *Impacts to Schools*

The project site is not located within 0.25 mile of any proposed or existing public school; thus, the proposed project would not result in a hazardous materials impact to schools. **(No Impact)**

4.9.2.5 *Hazardous Wastes and Substances Sites*

The project site is not located on the list of sites compiled under Government Code Section 65962.5 (Cortese List); therefore, no impact would occur.[57] **(No Impact)**

4.9.2.6 *Impacts to Airport Operations*

The nearest airport is located more than five miles north of the project site (San Martin Airport). The proposed project is not near a private airport or within an area subject to an airport comprehensive land use plan. Therefore, there would be no safety hazard or impact. **(No Impact)**

4.9.2.7 *Emergency Response Plan Interference*

Santa Clara County adopted its Emergency Operations Plan (EOP) in January 2017. The project site does not provide emergency access or facilities and is not identified or referred to in the EOP. The project would not block public roadways of otherwise impede access. For these reasons, the proposed project would not impair implementation of an adopted emergency response plan or emergency evacuation plan. **(Less-than-Significant Impact)**

4.9.2.8 *Wildfire Hazards*

According to the California Department of Forestry and Fire Hazard Protection, the project site is not subject to wildfire hazards.[58] **(No Impact)**

[57] DTSC. Envirostor. Hazardous Waste and Substances List (Cortese). Accessed May 18, 2018. http://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+(CORTESE).

[58] California Department of Forestry and Fire Protection. "Santa Clara County Very High Fire Hazard Zones in LRA." October 8, 2008. Accessed May 18, 2018. http://frap.fire.ca.gov/webdata/maps/santa_clara/fhszl_map.43.pdf.

4.10 HYDROLOGY AND WATER QUALITY

4.10.1 Environmental Setting

4.10.1.1 *Regulatory Framework*

Federal, State, and Regional

Water Quality Overview

The federal Clean Water Act and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality. Regulations adopted by EPA, the State Water Resources Control Board (SWRCB), and the Regional Water Quality Control Boards (RWQCBs) have been developed to implement these laws. EPA regulations include the National Pollutant Discharge Elimination System (NPDES) permit program, which regulates sources that discharge pollutants into the waters of the United States (e.g., streams, lakes, bays, etc.). These regulations are implemented at the regional level by the water quality control boards. The project site is within the jurisdiction of the Central Coast Regional RWQCB.

Statewide General Construction Permit

The SWRCB has issued a NPDES General Construction Permit for the State of California (Construction General Permit). For projects disturbing one acre or more of soil, a Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) must be prepared by a qualified professional prior to commencement of construction. The Construction General Permit includes requirements for training, inspections, record keeping, and for projects of certain risk levels, monitoring. The general purpose of the requirements are to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related storm water discharges.

Phase II Small MS4 General Permit

The cities of Gilroy and Morgan Hill and the County of Santa Clara (with respect to the portion of Santa Clara County that drain to the Pajaro River-Monterey Bay watershed, which includes the project site), are Permittees under the State's Phase II Small MS4 General Permit. Since these regions are located in Regional Water Quality Control Board Region 3 (Central Coast Region), the Permittees and any development authorized by the Permittees are subject to the Central Coast Post-Construction Requirements per Provision E.12.k of the Phase II Permit. The Central Coast Post-Construction Requirements became effective in 2014 and are specific to the Central Coast Region. Post-construction controls are permanent features of a new development or redevelopment project designed to reduce pollutants in stormwater and/or erosive flows during the life of the project. Types of post-construction controls include low impact development (LID) site design, pollutant source control, stormwater treatment, and hydromodification management measures. The LID approach reduces stormwater runoff impacts by minimizing disturbed areas and impervious surfaces, maximizing opportunities for infiltration and evapotranspiration, and using stormwater as a resource (e.g. rainwater harvesting for non-potable uses).[59]

[59] *Stormwater Management Guidance Manual for Low Impact Development & Post-Construction Requirements*. City of Gilroy, City of Morgan Hill and County of Santa Clara. June 2015.

Special Flood Hazard Areas

The Federal Emergency Management Agency (FEMA) established the National Flood Insurance Program (NFIP) in order to reduce impacts of flooding on private and public properties. In addition to providing flood insurance, FEMA also publishes Flood Insurance Rate Maps that identify Special Flood Hazard Areas (SFHA). A SFHA is an area that will be inundated by the one-percent annual chance flood, which is also referred to as the base flood or 100-year flood. NFIP floodplain management regulations are required in SFHAs.

Dam Safety

Because dam failure that results in downstream flooding may affect life and property, dam safety is regulated at both the federal and state level. In accordance with the state Dam Safety Act, dams are inspected regularly and detailed evacuation procedures have been prepared for each dam. The Santa Clara Valley Water District (SCVWD) routinely monitors and studies the condition of each of its 10 dams. The SCVWD also has its own Emergency Operations Center and a response team that inspects dams after significant earthquakes. These regulatory inspection programs reduce the potential for dam failure.

4.10.1.2 *Existing Conditions*

Surface Water Quality

The water quality of streams, creeks, ponds, and other surface water bodies can be greatly affected by pollution carried in contaminated surface runoff. Pollutants from unidentified sources, known as non-point source pollutants, are washed from streets, construction sites, parking lots, and other exposed surfaces into storm drains. Urban stormwater runoff often contains contaminants such as oil and grease, plant and animal debris (e.g., leaves, dust, animal feces, etc.), pesticides, litter, and heavy metals. In sufficient concentration, these pollutants have been found to adversely affect the aquatic habitats to which they drain. The nearest waterway to the project site is Llagas Creek, approximately 800 feet west of the project site, with an abandoned section of the creek (holds and conveys water seasonally) being immediately west across Holsclaw Road from the project.

Groundwater

The project site is located within the Gilroy-Hollister Valley Groundwater Basin and the Llagas Subbasin. The regional topographic gradient is generally to the southeast. The recharge area is located at the north, western, and eastern edges of the subbasin and is the area where active groundwater recharge takes place.[60] Groundwater levels in the project area are mapped at a depth of approximately 22 feet below the ground surface.[61]

[60] SCVWD. Groundwater Management Plan. Accessed May 18, 2018. https://www.water.ca.gov/LegacyFiles/groundwater/docs/GWMP/SF-1_SantaClaraValleyWD_GWMP_2012.pdf.
[61] AEI Consultants. Phase I Environmental Site Assessment, 6640 Holsclaw Road. August 23, 2013.

Stormwater Drainage

The project site is mostly undeveloped and water percolates into soils at the site. Stormwater from the limited developed surfaces travel southeast, as shown on the Grading Plan for the project.

Flooding

The subject property is mostly located within FEMA Flood Zone A (100-year floodplain), with approximately the first 70 feet of the project site, as measured from Holsclaw Road, located within Flood Zone D (possible but undetermined flood hazards). [62] The project site is not located within a dam failure zone.[63]

Seiche, Tsunami, and Mudflows

A seiche is a standing wave generated by rapid displacement of water within an enclosed body of water (such as a reservoir, lake, or bay) due to an earthquake.[64] A tsunami is a tidal wave caused by an underwater earthquake or volcanic eruption. A mudflow is a large, rapid mass of mud formed by loose earth and water. The project site is not subject to inundation due to seiches and tsunamis due to its distance from a water source, and is not subject to mudflow due to the flat terrain in the area.

4.10.2 Hydrology and Water Quality Impacts

4.10.2.1 *Thresholds of Significance*

For the purposes of this EIR, a hydrology and water quality impact is considered significant if the project 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 (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- 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 which would result in substantial erosion or siltation on- 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 which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;

[62] Federal Emergency Management Agency. "FEMA Flood Map Service Center: Search by Address". Accessed May 18, 2018. https://msc.fema.gov/portal/search.
[63] SVCWD. "Leroy Anderson Dam Flood Inundation Map Santa Clara County". April 2016.
[64] U.S. Geological Survey. "Seismic Seiches." Accessed March 30, 2018. http://earthquake.usgs.gov/learn/topics/seiche.php.

- 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 which would impeded or redirect flood flows;
- 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.

4.10.2.2 *Water Quality Impacts*

During Construction

Because the project would disturb more than one acre of ground surface, it would be required to comply with the Construction General Permit, and develop and implement a SWPPP. The SWPPP would contain erosion and sediment controls designed to minimize stormwater pollution by reducing sediment loads in runoff from the construction site. The SWPPP will also contain a list of measures and best management practices that would be used to reduce pollutant loads in runoff generated by materials, equipment, and other construction activities. An NOI would be filed with the RWQCB in conformance with NPDES permit requirements. Implementation of the SWPPP and conformance to drainage standards required by the County would reduce the project's construction phase stormwater pollution impacts to a less-than-significant level. **(Less-than-Significant Impact)**

Post-Construction

Construction of the project would result in the creation of more than 2,500 square feet of impervious surface area as part of the proposed structures and parking lot. As a result, the project would be considered a regulated project under the Central Coast Post-Construction Requirements, and would be subject to the Performance Requirements contained therein. Because the amount of impervious surface area created by the project exceeds 22,500 square feet, it must: 1) implement LID site design and source control measures; 2) treat runoff with an approved and appropriately sized LID treatment system prior to discharge from the site; 3) prevent offsite discharge from storm events up to the 95th percentile rainfall event using stormwater control measures; and 4) control post-project peak flows to not exceed pre-project peak flows for the two- through 10-year storm events.

In order to meet these provisions, the proposed project would include stormwater treatment, volume and flow controls. Stormwater runoff from the site would drain into the proposed on-site swales and bioretention pond, as shown in Figure 3.2-4: Site Plan. These proposed treatment controls would be sized and designed to have sufficient capacity to detain, treat and modify the flow of runoff from the proposed development areas, consistent with the Central Coast Post-Construction Requirements. Additionally, the project proposes to incorporate site design techniques such as preservation of existing trees and using drought-tolerant landscaping materials, as well as source controls (such as a covered trash enclosure). The proposed post-construction treatment controls, site design and source-control measures would treat stormwater on-site and reduce the volume of stormwater that would run off the site; therefore, stormwater quality impacts would be less than significant. **(Less-than-Significant Impact)**

4.10.2.3 *Groundwater Impacts*

The project does not propose the use of new wells at the project site; the existing well will remain. Groundwater will continue to be pumped and used at the project site consistent with existing permits. While the project site does not currently contribute substantially to recharging of the groundwater aquifers, only approximately 3.5 acres of the larger 22-acre site would be developed. Of this 3.5 acres, approximately 50 percent (approximately 76,000 square feet) would be covered with new structures or pavement. Thus, the remainder of the site would remain pervious allowing flow to the aquifer below. The existing septic system would be abandoned and the proposed system installed, in compliance with permits issued by the County DEH, which would ensure that health hazards and nuisance conditions are not created and that surface and groundwater quality are protected. For these reasons, the project's groundwater impacts would be less than significant. **(Less-than-Significant Impact)**

4.10.2.4 *Drainage Pattern Impacts*

The proposed project would not substantially alter the existing drainage pattern of the site or area through the alteration of any waterway, because there are no waterways on site. Further, the site is flat so substantial erosion or siltation would not occur as a result of the proposed project. The project would implement construction and post-construction stormwater volume, flow, and treatment requirements consistent with the Central Coast Post-Construction Requirements (including installation of drainage swale and stormwater detention pond). For these reasons, flooding or substantial surface runoff would not be caused at off-site locations as a result of the project and the impact would be less than significant. **(Less-than-Significant Impact)**

4.10.2.5 *Flood Impacts*

The project does not propose housing; therefore, the project would not place housing within a 100-year flood hazard area. The seed research facility would be placed within a 100-year flood hazard area; however, stormwater flows would be directed (as they are now) to the southeast to an earthen swale that would connect to the stormwater detention pond. Stormwater would also percolate directly through on-site pervious areas. For these reasons, the proposed project would not impede or redirect flood flows, such that flooding would worsen off-site. **(Less-than-Significant Impact)**

4.11 LAND USE AND PLANNING

4.11.1 Environmental Setting

4.11.1.1 *Regulatory Framework*

Regional

Santa Clara Valley Habitat Plan

The Habitat Plan is a conservation program intended to promote the recovery of endangered species and enhance ecological diversity and function, while accommodating planned growth on approximately 500,000 acres of southern Santa Clara County. The proposed project is not subject to the requirements of the plan because the project site is designated Rural Development Not Covered.

Santa Clara County General Plan

Policies in the County's General Plan have been adopted for the purpose of guiding land use and development in unincorporated Santa Clara County, and avoiding or mitigating impacts related to land use and planning, including the following.

Policy	Description
R-RC 5	Public and private development projects shall be evaluated and conditioned to assure they are environmentally sound, do not degrade natural resources, and that all reasonable steps are taken to mitigate potentially adverse impacts.

The project site's General Plan designation is Agriculture Large Scale. The site is within the City of Gilroy's sphere of influence. As discussed in Section 4.2 Agriculture and Forestry Resources, allowable land uses are limited to agriculture, uses necessary to directly support local agriculture, and other uses compatible with agriculture that enhance the long term viability of local agriculture and agricultural lands.

Zoning Ordinance

The project site is zoned Exclusive Agriculture with a 40-Acre Combining District (A-40ac.). Agricultural research uses, such as the proposed project, are permitted in this zone with ASA. Under the provisions of Chapter 5.40 of the County Zoning Ordinance, the purpose of the ASA process is to maintain the character and integrity of zoning districts by promoting quality development in harmony with the surrounding area, through consideration of all aspects of site configuration and design, and to generally promote the public health, safety, and welfare.

4.11.1.2 *Existing Conditions*

Agricultural fields are the dominant use in the project vicinity, especially to the north and east. These areas all have the same General Plan and zoning designation as the project site. Along with the agricultural uses are associated rural residences and agricultural-supportive commercial uses. Parcels to the west of the project vicinity are located within the City of Gilroy and the development pattern contains a denser mix of commercial, industrial, and agricultural uses.

The existing agricultural facility at the site was originally granted ASA in 2007. That ASA authorized the current uses with up to five employees at the site.

4.11.2 Land Use and Planning Impacts

4.11.2.1 *Thresholds of Significance*

For the purposes of this EIR, a land use and planning impact is considered significant if the project would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.11.2.2 *Physically Divide an Established Community*

The project proposes a one-story seed research building and greenhouses on the project site. The existing development pattern in the project area consists of a mix of agricultural land uses, and connectivity between communities would not be lost as a result of the project (roads or other physical divisions are not proposed). Thus, the proposed project would not physically divide an established community. **(Less-than-Significant Impact)**

4.11.2.3 *Consistency with Plans*

The proposed project is consistent with the County's General Plan and Zoning Ordinance, in that an agricultural research facility is an allowed use, subject to ASA approval. County conditions of approval and mitigation measures (as part of this EIR) will be implemented to avoid and/or lessen potentially adverse impacts, consistent with General Plan Policy R-RC 45. For these reasons, the project would not conflict with a plan adopted for the purpose of avoiding or mitigating an environmental effect. **(Less-than-Significant Impact)**

4.11.2.4 *Habitat Plan Consistency*

As discussed in Section 4.4 Biological Resources, the project site is designated Area 3 Rural Development Not Covered in the Habitat Plan. The project would not conflict with provisions of the Habitat Plan because the proposed project is not a covered development. Further, the project would implement MM BIO-1.1 to avoid impacts to birds. As a result, a conflict would not occur. (**Less-than-Significant Impact)**

4.12 NOISE AND VIBRATION

4.12.1 Environmental Setting

4.12.1.1 *Regulatory Framework*

Santa Clara County Noise Ordinance

Section B11-152 – Exterior Noise Limits

Section B11-152 of the Santa Clara County Code describes the maximum permissible noise levels for land uses in the County. Sound cannot exceed the following noise levels when measured on any other property:

a) The noise standard for that land use as specified in Table B11-152 (shown below as Table 4.12-1) for a cumulative period of more than 30 minutes in any hour; or
b) The noise standard plus five dB for a cumulative period more than 15 minutes in any hour; or
c) The noise standard plus 10 dB for a cumulative period more than five minutes in any hour; or
d) The noise standard plus 15 dB for a cumulative period more than one minute in any hour; or
e) The noise standard plus 20 dB or the maximum measured ambient for any period of time.

Table 4.12-1: Exterior Noise Limit Standards[1]

Receiving Land Use Category[2]	Time Period	Noise Level (dBA)
One and Two Family Residential	10:00 p.m. to 7:00 a.m. 7:00 a.m. to 10:00 p.m.	45 55
Multifamily Dwelling Residential	10:00 p.m. to 7:00 a.m. 7:00 a.m. to 10:00 p.m.	50 55
Commercial	10:00 p.m. to 7:00 a.m. 7:00 a.m. to 10:00 p.m.	60 65
Light Industrial	Any time	70
Heavy Industrial	Any time	75

1. Agricultural equipment noise is exempt from these standards.
2. If the noise measurement occurs on a property adjoining a different land use category, the noise level limit applicable to the lower land use category, plus five dB, will apply.

If the measured ambient level exceeds that permissible within any of the first four noise limit categories shown in Table 4.12-1, the allowable noise exposure standard will be increased in five dB increments in each category as appropriate to encompass or reflect the ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under the category will be increased to reflect the maximum ambient noise level. For offensive noise with a steady, audible tone (such as a whine, screech or hum) or containing music or speech conveying informational content, the standard limits will be reduced by five dB.

Section B11-153 – Interior Noise Limits

Interior Noise Limits Section B11-153 of the County Code identifies maximum permissible dwelling interior sound levels for multifamily residential dwellings which applies, unless otherwise specifically indicated, within all dwellings. From 10:00 p.m. to 7:00 a.m. the allowable interior noise level is 35 dBA Lmax and from 7:00 a.m. to 10:00 p.m. the allowable interior noise level is 45 dBA Lmax.

Section B11-154 – Prohibited Acts

Section B11-154 of the County Code prohibits the operation of construction tools or equipment, including drilling, repair, alteration or demolition work that would generate a noise disturbance across a residential or commercial real property line between weekdays and Saturday hours of 7:00 p.m. and 7:00 a.m., or at any time on Sundays or holidays. Where technically and economically feasible, construction activities shall not exceed the maximum noise levels shown below in Table 4.12-2.

Table 4.12-2: Maximum Noise Limits by Use[1]

Time Period	Single- and Two-Family Residential	Multi-family Residential	Commercial
Nonscheduled, Intermittent, Short-Term Operation (Less Than 10 Days) of Mobile Equipment			
Daily, except Sundays and legal holidays 7:00 a.m. to 7:00 p.m.	75 dBA L_{max}	80 dBA L_{max}	85 dBA L_{max}
Daily, 7:00 p.m. to 7:00 a.m., all day Sunday and legal holidays	50 dBA L_{max}	55 dBA L_{max}	60 dBA L_{max}
Repetitively Scheduled and Long-Term Operation (10 Days or More) of Stationary Equipment			
Daily, except Sundays and legal holidays 7:00 a.m. to 7:00 p.m.	60 dBA L_{max}	65 dBA L_{max}	70 dBA L_{max}
Daily, 7:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	50 dBA L_{max}	55 dBA L_{max}	60 dBA L_{max}

[1] Agricultural equipment noise is exempt from the standards listed below.

Vibration Criteria

The Santa Clara County Code of Ordinances (Section B11-154.7 Vibration) prohibits the operation of any device that creates a vibrating or quivering effect that endangers or injures the safety or health of human beings or animals, annoys or disturbs a person of normal sensitivities, or endangers or injures personal or real properties.

CEQA requires that the potential for excessive ground noise and vibration levels must be analyzed, but does not define "excessive." Caltrans has published vibration guidance relating to transportation and construction-induced vibration.[65] Caltrans recommends that a level of 0.2 inches/second (inches/second) peak particle velocity (PPV) not be exceeded for the protection of normal residential

[65] Caltrans. Transportation and Construction Vibration Guidance Manual. September 2013.

buildings, and that 0.1 in/sec PPV not be exceeded for the protection of old or historically significant structures.

4.12.1.2 *Existing Conditions*

Current uses at the site generate minimal audible noise at sensitive residential receptors to the northwest, southeast, and southwest. The nearest receptor is the residence located to the northwest of the project (approximately 60 feet from proposed structures). Occasional farm equipment use and vehicle trips to and from the site are the current primary noise sources. Occasional use of farm equipment may also cause minor vibration.

4.12.2 Noise and Vibration Impacts

4.12.2.1 *Thresholds of Significance*

For the purposes of this EIR, a noise and vibration impact is considered significant if the project would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or local general plan or noise ordinance, or applicable standards of other agencies;
    - Short-term exposure of sensitive receptors to increased construction equipment-related noise levels that exceed 75 dBA Lmax for mobile equipment and 60 dBA Lmax for stationary equipment during the day (7:00 a.m. to 7:00 p.m.), except Sundays and legal holidays.
    - Long-term exposure of sensitive receptors to increased motor vehicle traffic and operational noise levels that exceed the exterior noise limits of 55 dBA L_{50} and interior noise limits of 45 dBA Lmax and 45 dBA Leq from 7:00 a.m. to 10:00 p.m. and 45 dBA L50 for nighttime noise from 10:00 p.m. to 7:00 a.m.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
    - Exceeding Caltrans' recommended levels of 0.2 in/sec PPV for the protection of normal residential buildings, and 0.1 in/sec PPV for the protection of old or historically significant structures.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels; or
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

4.12.2.2 *Noise Increase in Excess of Standards*

Construction

Noisy construction activities are prohibited by the County Code on weekdays and Saturday between 7:00 p.m. and 7:00 a.m., or anytime on Sundays or holidays, except for emergency work on public service utilities or by variance. The project would comply with County-permitted hours of construction.

Typical project construction equipment noise levels (dBA) at a distance of 50 feet are shown in the following Table 4.12-3.

Table 4.12-3: Typical Construction Equipment Noise

Receiving Land Use Category	Noise Level (dBA) at 50 feet
Backhoe	80
Concrete Mixer	85
Front End Loader	80
Paver	89
Roller	85
Scraper	89
Tractor	84
Grader	85
Jack Hammer	88
Pneumatic Tools	86

Source: FTA. *Transit Noise and Vibration Impact Assessment*. 2006

While the project would comply with the County-permitted hours of construction, the nearest residence is approximately 60 feet away. Because noise levels decrease by about six dBA per doubling of distance, construction activities would still be above the 75 dBA threshold at the nearest single-family residential property line to the northwest (at 60 feet of separation). At a distance of 150 feet, all construction equipment would produce noise levels below 75 dBA. The noise level at the nearest receptor would be above the 75 dBA threshold, which would result in a significant noise impact.

Impact NOI-1: Within 150 feet of the adjacent single-family residential property line to the west, construction equipment noise would exceed the 75 dBA level specified in County Code Section B11-154. **(Significant Impact)**

Mitigation Measure: A Construction Noise Control Plan shall be prepared and implemented during construction to ensure that noise from equipment is reduced to the 75 dBA noise standard at the single-family residential property line to the northwest.

MM NOI-1.1: For construction activities involving noise-producing equipment occurring within 150 feet of off-site sensitive receptors, noise attenuation measures shall be implemented to reduce construction noise to 75 dBA at the western property line (nearest single-family residential receptor). These measures shall be described in a Noise Control Plan that shall be submitted for review and approval by the County Planning and Development Department prior to issuance of any grading or building permits to ensure that construction noise levels are consistent with the standards set forth in Section B11-154 of the County Code. The Construction Noise Control Plan shall be implemented during all phases of construction and shall include, at a minimum, the following noise-control measures:

- Equipment used during construction shall incorporate best available noise-control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds). Additionally, the Noise Control Plan shall (if necessary) include use of moveable noise screens, noise blankets, or other suitable sound attenuation devices to reduce noise levels to below 75 dBA;
- Impact tools used during construction shall be hydraulically or electrically powered when possible to avoid noise from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler shall be used. Mufflers can lower noise levels from the exhaust by up to approximately 10 dBA. External jackets on the tools themselves shall be used where feasible to achieve an additional reduction of five dBA. Quieter procedures, such as use of drills rather than impact tools, shall be used where feasible; and
- Stationary construction noise sources (if required) shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or include other measures, to reduce noise levels to below 75 dBA (or 60 dBA if used for more than 10 days).

Compliance with County Code requirements for construction hours would limit construction to less noise-sensitive hours. MM NOI-1.1 would further reduce noise impacts construction of the project would result in a less than significant noise impact. **(Less-than-Significant Impact with Mitigation)**

4.12.2.3 *Construction Vibration Impacts*

Construction of the project may generate perceptible vibration when heavy equipment or impact tools are used. Construction activities would include site preparation work, foundation work, paving, and new building framing, and finishing. For structural damage, the California Department of Transportation recommends a vibration limit of 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, for example where there is a risk of damage to older residential dwellings—such as plastered walls or ceilings.[66] Table 4.12-4

[66] California Department of Transportation. Transportation and Construction Vibration Guidance Manual. September 2013.

presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet.

Table 4.12-4: Vibration Source Levels for Construction Equipment		
Equipment		**PPV at 25 feet**
Clam Shovel Drop		0.202
Hydromill (slurry wall)	in soil	0.008
	in rock	0.017
Vibratory Roller		0.210
Hoe Ram		0.089
Loaded Trucks		0.076
Jackhammer		0.035
Bulldozer		0.003
Source: FTA. *Transit Noise and Vibration Impact Assessment.* 2006.		

The nearest structure to the project activities is approximately 35 feet to the northwest of the project site at 6650 Holsclaw Road. The project construction activities would occur at least 35 feet from adjacent structures. With this distance of separation, vibration levels from construction equipment would be below the 0.3 in/sec PPV significance threshold and any impact would be less than significant. This would be consistent with County Code Section B11-154.7, which prohibits the operation of any device that creates a vibrating or quivering effect that endangers or injures the safety or health of human beings or animals, annoys or disturbs a person of normal sensitivities, or endangers or injures personal or real properties. **(Less-than-Significant Impact)**

4.12.2.4 *Permanent Increase in Noise Levels*

Traffic Noise

The project would result in approximately 20 additional employees at the site (where five employees are existing), and the additional 66 vehicle trips associated with these employees would be spread throughout the day and would not noticeably increase the ambient noise level at the project site.[67] Thus, the project-generated traffic would result in a less-than-significant noise impact. **(Less-than-Significant Impact)**

Building Mechanical Equipment Noise

The proposed research facility and greenhouses would include mechanical equipment, such as ventilation systems, air conditioning units, and exhaust fans. Section B11-154(b)(12) of the County Noise Ordinance limits noise levels from building mechanical equipment to 45 dBA at any neighboring property line. If mechanical equipment is placed in an unshielded area on the outside of the buildings or on rooftops, noise at the property lines could exceed 45 dBA. To ensure compliance with Section

[67] Institute of Transportation Engineers. *Trip Generation Manual, 10th Edition.* September 2017. Research and Development Use Code (760). Average rate of 3.29 trips per employee.

B11-154(b)(12) of the County Noise Ordinance, the project would be required to provide reduce equipment noise levels to below 45 dBA.

Impact NOI-2: Noise from project mechanical equipment could result in noise levels at the adjacent property lines exceeding the 45 dBA limit specified in Section B11-154(b)(12) of the County Noise Ordinance, which would be considered a significant impact. **(Significant Impact)**

Mitigation Measure: The following mitigation measure would ensure that noise levels at adjacent property lines as a result of mechanical equipment are below 45dBA, thus reducing the impact to a less-than-significant level.

MM NOI-2.1: A qualified acoustical consultant shall be retained to review mechanical equipment selected and determine specific noise reduction measures necessary to reduce noise to comply with the County's noise level requirements (if needed). Noise reduction measures could include, but are not limited to, selection of equipment that emits low noise levels, installation of noise barriers to block the line-of-sight between the noise source and the property lines, and locating equipment away from property lines, where feasible. A letter, prepared by the qualified acoustical consultant, shall be submitted to Department of Planning and Development prior to building permit issuance describing measures to be implemented to reduce noise levels to below 45 dBA at the property lines. **(Less-than-Significant Impact with Mitigation)**

4.12.2.5 *Airport Noise*

The project site is not located within an airport land use plan area, or within two miles of a public airport or public use airport. As described previously, the nearest public airport is the San Martin Airport, located approximately five miles northwest of the project site. Thus, no airport noise-related impact would not occur. Moreover, as previously explained, in the *BIA v. BAAQMD* case, the California Supreme Court held that CEQA is generally concerned with the impacts of a project on the environment, not the effects that the existing environment may have on the project. **(No Impact)**

4.13 POPULATION AND HOUSING

4.13.1 Environmental Setting

4.13.1.1 *Regulatory Framework*

Local

Santa Clara County General Plan

As part of the Santa Clara County General Plan, and to be in accordance with state and regional housing development goals, the County of Santa Clara Housing Element Update 2015-2022 was adopted in 2014. The Housing Element outlines the County's plans to focus development in Urban Service Areas (primarily in incorporated cities). Unincorporated rural areas are generally planned to be used for open space, agricultural, and commercial uses (i.e. mineral extraction, ranching), as well as dispersed single family homes and agricultural worker housing.

Zoning Ordinance

The proposed project site is zoned Exclusive Agriculture with a 40-Acre Combining District (A-40ac.). Residential uses are allowed with County building site approval.

4.13.1.2 *Existing Conditions*

The closest major city to the proposed project site is Gilroy, with an estimated 2016 population of 51,649 and an estimated 15,802 total housing units.[68] The Gilroy 2020 General Plan estimates that by the year 2020 the population will rise to between 60,500 and 62,500.[69]

The project site is currently developed with agricultural uses. The site has approximately five employees, with additional workers present on-site during harvest times.

4.13.2 Population and Housing Impacts

4.13.2.1 *Thresholds of Significance*

For the purposes of this EIR, a population and housing impact is considered significant if the project would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

[68] United State Census Bureau. America FactFinder. "2012-2016 American Community Survey 5-Year Estimates". 2015. Accessed May 22, 2018. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF.
[69] City of Gilroy. *Gilroy 2020 General Plan*. June 2002.

4.13.2.2 *Population Growth*

The proposed project would employ a maximum of 20 additional workers on-site (with five workers currently employed at the site), for a total of 25 workers. The project would consolidate workers from other Shamrock Seed facilities in the area. With the low number of employees, it is anticipated that these workers would come from the local labor pool and commute from nearby areas. For these reasons, the proposed project would not induce substantial short-term or long-term population growth and the impact would be less than significant. **(Less-than-Significant Impact)**

4.13.2.3 *Displacement of Existing Housing or People*

There are no residences at the site and no people would be displaced. As a result, there would be no impact. **(No Impact)**

4.14 PUBLIC SERVICES AND RECREATION

4.14.1 Environmental Setting

4.14.1.1 *Regulatory Framework*

State

Quimby Act - Parks

The Quimby Act (California Government Code Sections 66475-66478) was approved by the California legislature to preserve open space and parkland in the state. This legislation was passed in response to California's increased rate of urbanization and the need to preserve open space and provide parks and recreation facilities. The Quimby Act authorizes local governments to establish ordinances requiring developers of new subdivisions to dedicate parks, pay an in-lieu fee, or perform a combination of the two.

4.14.1.2 *Existing Conditions*

Fire Services

The project site is serviced by the Gilroy Fire Department, Hollister Fire Department, and the South Santa Clara County Fire District (Fire District). The Fire District is staffed by the California Department of Forestry and Fire Protection and participates in automatic aid agreements with the Morgan Hill, Gilroy, Pajaro Valley, Hollister, and San Jose Fire Departments. The Fire District responds to about 3,000 incidents per year.[70] The nearest fire station is approximately 1.5 miles west of the site a 7070 Chestnut Street in Gilroy, California.

Police Services

The project site is served by the Santa Clara County Sheriff's Office (Sheriff's Office) and the California Highway Patrol (CHP). The Sheriff's Office is staffed by 1,302 sworn law enforcement officers, the majority of whom are enforcement and correctional deputies.[71] CHP operates two nearby divisions, the Golden Gate Division that includes Santa Clara County, and the Coastal Division that includes parts of Gilroy and Hollister.[72] The nearest police stations are in the City of Gilroy approximately 1.2 miles west at 740 Renz Lane (CHP) and two miles west at 7301 Hanna Street (Gilroy Police Department).

Schools

The closest schools to the project site are Pacific Point Christian School, approximately 0.6 mile southeast at 2220 Pacheco Pass Highway, and Eliot Elementary School, approximately 1.5 miles west at 475 Old Gilroy Street.

[70] South Santa Clara County Fire District. "About Us South Santa Clara County Fire District". Accessed May 18, 2018. http://www.ssccfd.com/about/.
[71] County of Santa Clara County. "The Sheriff's Office – Sheriff – County of Santa Clara". 2017. Accessed May 18, 2018. https://www.sccgov.org/sites/sheriff/Pages/overview.aspx.
[72] State of California. "Find an Office". 2017. Accessed May 18, 2018. https://www.chp.ca.gov/find-an-office.

Parks

The City of Gilroy has 27 parks and recreational facilities, the closest of which is the Gilroy Sports Complex approximately four miles north of the project site.[73] Santa Clara County parks has 28 total parks with over 52,000 acres of land combined.[74] The closest park to the project site is San Ysidro Park, approximately 1.8 miles northwest in Gilroy.

4.14.2 Public Services and Recreation Impacts

4.14.2.1 *Thresholds of Significance*

For the purposes of this EIR, a public services or recreation impact is considered significant if the impacts are 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.
- An increase in 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 of expansion of recreational facilities which might have an adverse physical effect on the environment.

4.14.2.2 *Additional Public Services for Employees*

The proposed project would have a maximum of 25 employees on-site (with five employees associated with current operations at the site). It is assumed that these employees would be relocated to the site from other Shamrock Seeds facilities in the vicinity or would be provided by the local labor pool and would commute to the project site from nearby areas. Because workers would come from nearby areas, they are already considered to be part of the existing demand for public services; therefore, the project would not cause an increase in demand for schools, parks, or other public services related to employee commuting and housing. **(No Impact)**

4.14.2.3 *Additional Public Services for Operation*

The proposed project would take place on land being used for agricultural uses, which require occasional responses from public services for fire protection, medical emergencies, or police

[73] City of Gilroy. "Park & Facility Rentals | Gilroy, CA – Official Website." Accessed May 18, 2018. http://www.cityofgilroy.org/538/Park-Facility-Rentals.
[74] County of Santa Clara County. "About Us – Parks and Recreation – County of Santa Clara.". Accessed May 18, 2018. https://www.sccgov.org/sites/parks/AboutUs/Pages/About-the-County-Regional-Parks.aspx.

investigation (e.g., traffic control, vehicle accidents, trespassing, etc.). The proposed project would result in a minimal increase to the current baseline level of service for the project area, given its small employee size, adjacency to existing roadways, and maintenance of the majority of the site (22 acres) for its current agricultural land use. Therefore, the project would not result in physical impacts to the environment related to public services (e.g., the construction of additional fire or police facilities). Further, a 40,000-gallon above-ground water tank would support the on-site fire suppression system to assist during a fire emergency. As a result, the project would have a less than significant impact on public services. **(Less-Than-Significant Impact)**

4.14.2.4 *Recreational Use and Facilities*

The project does not propose to add permanent residents and therefore would not create demand for more parks within the County. Thus, the project would not result in the need for new or physically altered parks in the project area. Additionally, project employees are anticipated to come from other existing Shamrock Seed facilities and the local workforce; therefore, usage of recreational facilities would not increase above existing levels. **(Less-than-Significant Impact)**

4.15 TRANSPORTATION/TRAFFIC

4.15.1 Environmental Setting

4.15.1.1 *Regulatory Framework*

State

Senate Bill 743 (SB 743), which became effective September 2013, initiated reforms to the CEQA Guidelines to establish new criteria for determining the significance of transportation impacts that "promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses." Specifically, SB 743 directs the Governor's Office of Planning and Research (OPR) to update the CEQA Guidelines to replace automobile delay—as described solely by level of service (LOS) or similar measures of vehicular capacity or traffic congestion—with vehicle miles traveled (VMT) as the recommended metric for determining the significance of transportation impacts. OPR has prepared updated draft CEQA Guidelines implementing SB 743. Beginning on January 1, 2020, the provisions of SB 743 will apply statewide.

4.15.1.2 *Existing Conditions*

The project site is accessed via Holsclaw Road. Leavesley Road to the north and SR 152 to the south provide regional access to Holsclaw Road. There are five employees at the site currently. It is estimated that these employees result in approximately 17 total vehicle trips to and from the site on a daily basis.[75] Because the project site is located in a rural unincorporated area, there are no other transportation facilities (i.e. sidewalks, bike lanes, bike routes, transit services) in the immediate vicinity. As described previously, the nearest airport is located approximately five miles northwest of the project site.

4.15.2 Transportation/Traffic Impacts

4.15.2.1 *Thresholds of Significance*

A transportation/traffic impact is considered significant if the project would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account 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;

[75] Institute of Transportation Engineers. *Trip Generation Manual, 10th Edition.* September 2017. Research and Development Use Code (760). Average rate of 3.29 trips per employee.

- Substantially increase hazards due to a design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or otherwise decrease the performance of safety of such facilities.

4.15.2.2 *Consistency with Congestion Management Plans, Policies, or Programs*

The Santa Clara Valley Transportation Agency Congestion Management Plan requires a transportation analysis, which includes a freeway level of service (LOS) analysis and a future growth analysis, be prepared when a project would add 100 or more peak hour trips to the roadway network. Projects that generate fewer than 100 trips in either peak hour are presumed to have a less than significant impact on the LOS of local intersections that would carry project traffic. The project would result in an additional approximately 66 new vehicle trips per day for the 20 new on-site employees; therefore, the project would be below the 100 peak hour trips threshold and would have a less than significant LOS impact.[76] **(Less-Than-Significant Impact)**

Vehicle Miles Traveled

SB 743 calls for the replacement of LOS-related automobile delay with vehicle miles traveled (VMT) as the metric for determining the significance of transportation impacts under CEQA. Lead agencies can implement the VMT metric at their discretion until it becomes a mandatory requirement for all lead agencies statewide on January 1, 2020. The County of Santa Clara has yet to adopt the VMT metric as a CEQA threshold; however, a VMT estimate is provided for informational purposes. The project would result in approximately 180,181 VMT annually, based on CalEEMod data contained in Appendix D.

4.15.2.3 *Air Traffic Patterns Change*

The project is located approximately five miles from the San Martin Airport. Due to the separation in distance, the project would not impact airport traffic levels or result in increased safety risks. **(No Impact)**

4.15.2.4 *Emergency Access and Hazards*

The project site would utilize existing roadways for access. No sharp curves or dangerous roadway conditions are proposed in public or private portions of the site and adherence to engineering standards would ensure the on-site driveways meet a minimum standard of safety. The estimated 66 new vehicle trips associated with the project would be spread out through the day and would not block access in the event of an emergency. Construction and employee vehicles would abide by vehicle codes requiring them to yield to emergency vehicles and not impede emergency access. For these reasons, impacts would be less than significant. **(Less-than-Significant Impact)**

[76] Institute of Transportation Engineers. *Trip Generation Manual, 10th Edition.* September 2017. Research and Development Use Code (760). Average rate of 3.29 trips per employee.

4.15.2.5 *Public Transit, Bicycle, or Pedestrian Facilities Impacts*

The project site is located in an undeveloped, rural area of Santa Clara County. There are no transportation facilities (such as sidewalks, bike lanes, bike routes, transit services) that would be impacted by the project. **(No Impact)**

4.16 UTILITIES AND SERVICE SYSTEMS

4.16.1 Environmental Setting

4.16.1.1 *Regulatory Framework*

State and Regional

Assembly Bill 939 and Senate Bill 1016

The California Integrated Waste Management Act of 1989, or AB 939, established the Integrated Waste Management Board (now known as CalRecycle), required the implementation of integrated waste management plans (IWMPs), and mandated that local jurisdictions divert at least 50 percent of solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures.

Santa Clara County's IWMP was approved by CalRecycle in 1996 and was subsequently reviewed in 2004, 2007, and 2011. Each jurisdiction in the County has a landfill diversion requirement of 50 percent per year. Beginning with reporting year 2007 jurisdiction annual reports, total diversion rates are no longer determined, and only per capita disposal rates are measured, expressed in pounds/person/day (PPD).[77]

Assembly Bill 341

AB 341 sets forth requirements of the statewide mandatory commercial recycling program in the Public Resources Code. Businesses that generate four or more cubic yards of garbage per week are required to recycle. AB 341 sets a statewide goal for 75 percent commercial disposal reduction by the year 2020.

Senate Bill 1383

SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. SB 1383 grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025.

4.16.1.2 *Existing Conditions*

Water Supply and Wastewater

Water service to the project site is currently provided by an existing private well, as neither the County or nearby cities provide water and sewage services to the project site. Existing uses at the site have utilized between 14 and 71 acre-feet per year (AFY) of water from the on-site well (with an

[77] California Department of Resources Recycling and Recovery. "Local Government Jurisdiction Diversion/Disposal Rate Summary". October 24, 2012. Accessed May 18, 2018. http://www.calrecycle.ca.gov/LGCentral/DataTools/Reports/DivDispRtSum.htm.

average of 25.5 AFY) between 2014 and 2017.[78] The well draws from the Llagas Subbasin, managed by the Santa Clara Valley Water District (SCVWD). The long-term average groundwater pumping in the Llagas Subbasin is 44,000 AFY, based on average pumping between 2009 and 2013.[79] The existing uses are not connected to municipal wastewater lines.

Storm Drainage

The project site is mostly undeveloped and water percolates into soils at the site. Water that does not percolate or water that falls on developed surfaces travels southeast, as shown on the Grading Plan for the project. The existing uses are not connected to municipal storm drains. The storm water runoff from the general area is ultimately discharged into creeks that are tributary to Monterey Bay. Stormwater runoff from the project site flows towards Llagas Creek and percolates into the Llagas Subbasin, which eventually drain to the Pajaro River.[80]

Solid Waste

In 2016, unincorporated Santa Clara County generated 70,331 tons of waste, with 80 percent of it going to four specific landfills: John Smith Road landfill (28,490 tons), Billy Wright Disposal Site (12,494 tons), Newby Island Sanitary landfill (8,183 tons), and Kirby Canyon landfill (7,048 tons).[81] The 2016 per employee disposal rate in California was 11.4 pounds/employee/day, with 63 percent of disposal materials being recycled.[82] Consistent with this rate, it is estimated that the five on-site employees generate 57 pounds of waste daily with approximately 36 pounds of this waste being recycled.

4.16.2 Utilities and Service Systems Impacts

4.16.2.1 *Thresholds of Significance*

For the purposes of this EIR, a utilities and service systems impact is considered significant if the project would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new waste 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;

[78] Musy-Verdel, Amanda. Spreadsheet emailed to Ashton, Amie – Project Manager with David J. Powers & Associates. Santa Clara County Gilroy Research Station AG Water Usage. May 30, 2018.
[79] SCVWD. *2016 Groundwater Management Plan*.
[80] SCVWD. Creek and Watershed Map of Morgan Hill and Gilroy. 2009
[81] CalRecycle. "Jurisdiction Disposal by Facility Report". Accessed May 30, 2018. http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=ReportYear%3d2016%26ReportName%3dReportEDRSJurisDisposalByFacility%26OriginJurisdictionIDs%3d467.
[82] CalRecycle. "California's Per Capita 2016 Disposal Rate Estimate". Accessed May 23, 2018. http://www.calrecycle.ca.gov/lgcentral/goalmeasure/disposalrate/MostRecent/default.htm.

- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- Comply with federal, state, and local statutes and regulations related to solid waste.

4.16.2.2 *Wastewater Treatment Requirements*

The proposed project would not have a connection to public wastewater facilities. The project would have a County-permitted on-site septic system, distribution box, and leach field in lieu of municipal wastewater services. Because the proposed project would not utilize municipal wastewater services regulated by the RWQCB, it would not impact wastewater treatment facilities regulated by the RWQCB or require construction of additional facilities. **(No Impact)**

4.16.2.3 *Construction of New Water or Wastewater Facilities*

The proposed project would include a new on-site septic system, which would be permitted by the County DEH. Because the project site is not within an urban service area, there are no municipal water or wastewater lines servicing the site. Thus, no additional construction or expansion of existing wastewater facilities would occur. Project water supply would come from an existing on-site well, which would provide water for agricultural production, seed research, and employee usage. Water from the well would also be stored in a 40,000-gallon above ground water tank on the project site for emergencies. As such, the project would not result in impacts from the construction of new water or wastewater facilities. **(No Impact)**

4.16.2.4 *Construction of Stormwater Facilities*

Construction of the project would result in the creation of more than 2,500 square feet of impervious surface area as part of the proposed structures and parking lot. As a result, the project would be considered a regulated project under the Central Coast Post-Construction Requirements, and would be subject to the Performance Requirements contained therein. Because the amount of impervious surface area created by the project exceeds 22,500 square feet, it must: 1) implement LID site design and source control measures; 2) treat runoff with an approved and appropriately sized LID treatment system prior to discharge from the site; 3) prevent offsite discharge from storm events up to the 95th percentile rainfall event using stormwater control measures; and 4) control post-project peak flows to not exceed pre-project peak flows for the two- through 10-year storm events.

In order to meet these provisions, the proposed project would include stormwater treatment, volume and flow controls. Stormwater runoff from the site would drain into the proposed on-site swales and bioretention pond, as shown in Figure 3.2-4: Site Plan. These proposed treatment controls would be sized and designed to have sufficient capacity to detain, treat and modify the flow of runoff from the proposed development areas, consistent with the Central Coast RWQCB Post-Construction Requirements. The proposed post-construction treatment controls would treat stormwater on-site and reduce the volume of stormwater that would run off the site; therefore, new storm water drainage

facilities or expansion of existing facilities are not required and stormwater quality impacts would be less than significant. **(Less-than-Significant Impact)**

4.16.2.5 *Water Supply*

The water supply for the proposed project would come from an existing, permitted well, as there are no municipal water lines to the project site. Given efficiencies in greenhouse production using drip irrigation systems which will be utilized in the greenhouses, it is anticipated that implementation of the proposed project would use approximately one less AFY water than the existing uses (24.5 AFY) on an annual basis.[83]

Surrounding agricultural wells in the Pajaro Valley near Watsonville averaged groundwater pumping of 52,000 AFY between 2009 and 2013.[84] By comparison, and as noted above, the proposed project would decrease average water use at the site and would account for less than 0.1 percent of the area's total groundwater pumping. As a result, the proposed project would have a less than significant impact on water entitlements and supply. **(Less-than-Significant Impact)**

4.16.2.6 *Wastewater Treatment Capacity*

As discussed above, the proposed project would not be served by a municipal wastewater treatment provider. Thus, the project would not affect a wastewater treatment provider's capacity. (**No Impact**)

4.16.2.7 *Landfills*

The proposed project would employ up to 20 additional people at the site, in addition to the existing five employees. The solid waste collected from these additional 20 employees would be 228 pounds per day (with 143 pounds being recycled). There are several landfills with capacity to handle the project. Kirby Canyon Landfill, located in the City of San Jose, as of January 1, 2017, has a remaining capacity of 18 MT and based on current tonnage rates will close in 2063.[85] Newby Island Sanitary Landfill, located in the City of Milpitas, as of May 17, 2018, has a remaining capacity of 16.9 million cubic yards and is estimated to close in the year 2039.[86] Because there is existing capacity at area landfills, the proposed project would have a less than significant impact. **(Less-than-Significant Impact)**

4.16.2.8 *Federal, State, and Local Solid Waste Regulations*

The proposed project would follow federal, state, and local laws with regard to solid waste. Specifically, the proposed project would divert at least 50 percent of demolition debris from landfills in accordance with CALGreen. Any soils off-hauled would be tested for contamination as described

[83] Musy-Verdel, Amanda. Spreadsheet emailed to Ashton, Amie. Santa Clara County Gilroy Research Station AG Water Usage. May 30, 2018. Proposed drip irrigation greenhouses would replace areas that are currently conventionally farmed (outdoor) with row crops.
[84] Carollo Engineers. *Basin Management Plan Update. Prepared for Pajaro Valley Water Management Agency, Watsonville, CA.* February 2014.
[85] Azevedo, Becky. Technical Manager, Waste Management. Personal Communication with Rogers, Tyler. April 17, 2017.
[86] Kelapanda, Achaya. Environmental Manager, Newby Island Sanitary Landfill. Personal communications. May 17, 2018.

within MM HAZ-1.1 and MM HAZ-1.2. As done currently at the site, agricultural chemicals and cleaners would continue to be used and disposed of consistent with applicable regulations. Because the project would comply with regulations and mitigation measures, there would be no impact. **(No Impact)**

SECTION 5.0 CUMULATIVE IMPACTS

5.1 CUMULATIVE ANALYSIS

Cumulative impacts, as defined by CEQA, refer to two or more individual effects, which when combined, are considerable or which compound or increase other environmental impacts. CEQA Guideline Section 15130 states that an EIR should discuss cumulative impacts "when the project's incremental effect is cumulatively considerable." Cumulative analyses are based on the premise that impacts of specific actions may be less than significant when viewed on a project-by-project basis, but when considered along with the impacts of other projects involving similar activities, these specific actions may be cumulatively considerable. The discussion does not need to be in as great detail as is necessary for project impacts, but is to be "guided by the standards of practicality and reasonableness." Assumptions for the cumulative analysis are identified below.

5.2 TIMEFRAME OF ANALYSIS

The proposed project will be constructed in two phases; with site preparation and the agricultural research building being constructed in the first year, and the greenhouses being constructed in the second year. Phase I would take approximately nine to 12 months to complete and Phase II would take approximately six months to complete. Project construction would begin in 2019 and be complete in 2021.

5.3 AREA OF ANALYSIS

The analysis area of potential cumulative impacts represents the physical extent of the limits in which impacts of the proposed project may occur. Section 15130(b)(3) of the CEQA Guidelines states that lead agencies should define the geographic scope of the area affected by the cumulative effect. The geographic area that could be affected by the proposed project varies depending upon the type of environmental issue being considered. Table 5.3-1 presents the general geographic areas associated with the resources areas addressed in this EIR.

Table 5.3-1: Cumulative Impact Analysis Geographic Scope

Resource Area	Geographic Area
Aesthetics	Project site and adjacent parcels
Agricultural and Forestry	Unincorporated County
Air Quality	San Francisco Bay Area Air Basin
Biological Resources	Project site and adjacent parcels
Cultural Resources	Project site and vicinity
Energy	Countywide
Geology and Soils	Project site
GHGs	Planet-wide
Hazards and Hazardous Materials	Project and adjacent parcels
Hydrology and Water Quality	Llagas Creek and watershed

Table 5.3-1: Cumulative Impact Analysis Geographic Scope	
Resource Area	**Geographic Area**
Land Use and Planning/Population and Housing	Project site, unincorporated County, Gilroy
Noise and Vibration	Project site and adjacent parcels
Public Services and Recreation	Project site, unincorporated County, Gilroy
Transportation/Traffic	Project site and adjacent roadways
Utilities and Service Systems	Project site, unincorporated County, Gilroy

5.4 CUMULATIVE PROJECT LIST

For the purposes of this document, "reasonably foreseeable" refers to projects that federal, state, or local agency representatives have knowledge of from the formal application process. Table 5.4-1 lists the reasonably foreseeable future projects that are either within approximately one mile of the project, or are more than one mile but are large enough that a cumulative impact could occur. These projects are all located within the City of Gilroy.

Table 5.4-1: Reasonably Foreseeable Projects List			
File Number	**Address**	**Distance from Proposed Project (miles)**	**Project Description**
AS 16-20 (#16050055)	6901 Cameron Boulevard Gilroy, CA 95020	0.80 east	7,018-square-foot gas station, carwash, and retail space
AS 16-40 (#16090017)	850 Pacheco Pass Highway Gilroy, CA 95020	1.00 east	Replacement of a 4,975-square-foot gas station and underground tanks
AS 18-01 (#18010011)	6503 Cameron Boulevard & 1001 Ventura Way Gilroy, CA 95020	0.70 east	Conversion of Silacci cut-through road to be a cul-de-sac, construction of two warehouses totaling 173,740 square feet
AS 16-25 (#16060050)	6705 Silacci Way Gilroy, CA 95020	0.70 east	91,045 square foot for contractor truck parking and equipment yard
AS 17-08 (#17030017)	6500 Cameron Boulevard Gilroy, CA 95020	0.60 east	40,125 square foot addition to an existing self-storage facility
AS 17-32 (#17090040)	904 Holloway Road Gilroy, CA 95020	0.08 east	9,971 addition to an existing laundry facility
Not Applicable	SR 152 Trade Corridor	0.20 south	Realignment of SR 152 between U.S. 101 and SR 156
Sources: City of Gilroy. Development Activity Log. Accessed May 17, 2018. https://www.cityofgilroy.org/DocumentCenter/View/5996/Current-Planning-and-Development-Project-List. Caltans. "SR 152 Trade Corridor". Accessed May 23, 2018. http://www.vta.org/projects-and-programs/highways/sr-152-trade-corridor.			

5.4.1 Thresholds of Significance

The discussions below address the following aspects of cumulative impacts:

- Would the effects of the proposed project, when combined with the effects of all past, present, and pending development result in a cumulatively significant impact on the resources in question?
- If a cumulative impact is likely to be significant, would the contribution of the proposed project to that impact be cumulatively considerable?

5.4.1.1 *Cumulative Impacts*

For biological and cultural resources, geology, hazards and hazardous materials, and noise and vibration, the area of cumulative impact is the site itself and in some cases immediately adjacent parcels. For example, with regard to historic resources, other development could degrade the already limited integrity of the area that is present. For these resource areas, there are no projects listed in Table 5.4-1 whose impacts, when combined with existing and reasonably foreseeable future project-related impacts, would result in cumulatively considerable construction or operational impacts. If future projects are developed in the immediate area, they would be subject to the same measures and ordinance requirements as the proposed project, for example for nesting-bird protection measures and noise limits during construction and operation. As a result, a cumulative impact would not occur. **(Less-than-Significant Cumulative Impact)**

Aesthetics (Lighting)

The project's increase in sky brightness would not be noticeable to humans and there are no other projects in Table 5.4-1 that involve significant lighting such that a cumulative impact would occur. The sky glow of nearby cities is significantly brighter than the sky glow that would result from the new greenhouses. For comparison, sky brightness from the City of San Jose to the north is 33 times brighter than the brightness caused by the proposed greenhouses, and the brightness from the cities of San Jose, Gilroy, and Salinas combined is 44 times brighter than the sky brightness caused by the proposed greenhouses. For these reasons, the proposed project would not contribute considerably to a cumulative impact. **(Less-than-Significant Cumulative Impact)**

Air Quality

The San Francisco air basin is regulated by BAAQMD, which has determined that a project's individual emissions contribute to cumulatively significant adverse air quality impacts. If a project's contribution to an impact is significant, then the project's cumulative impact on air quality would also be considered significant. As discussed in Section 4.3 Air Quality, impacts from construction and operation of the project would be below BAAQMD thresholds of significance with implementation of BAAQMD standard dust and emissions-control measures; therefore, the project would not result in a cumulative air quality impact when combined with other projects in the vicinity.

None of the projects listed in Table 5.4-1 would be constructed within a close enough proximity (within 1,000 feet) that there would be the potential for a cumulative construction impacts to sensitive receptors as a result of TAC emissions from heavy equipment due to the localized nature of these emissions. Further, it would be unlikely that the projects would be constructed at the same time

(given the rural quality of the area) and the lack of large-scale development. As a result, any cumulative air quality impact would be less than significant. **(Less-than-Significant Cumulative Impact)**

Agriculture and Forestry Resources

The project would not convert agricultural or forestry-related uses to other types of uses. The project is consistent with the site's General Plan designation and zoning for agricultural uses. The project has also been deemed consistent with the Williamson Act contract for the site. While areas of agricultural use conversion may occur in greater Santa Clara County, the project would not contribute to a loss of agricultural or forestry resources. **(Less-than-Significant Cumulative Impact)**

Energy

All projects in the cumulative scenario would use energy during construction; however, the overall construction schedule and process for all projects is designed to be efficient in order to avoid excess monetary costs. Additionally, all projects would include air quality-related measures to lessen idling times of equipment. All projects would be required to be constructed consistent with CalGreen and Title 24 of the CBC, which require energy efficient design and use of fixtures to ensure buildings do not waste energy. Operation of projects in the cumulative scenario would not result in a substantial increase in demand upon energy resources because their combined energy requirements would not exceed anticipated state, county, or local energy supplies; thus, the impact would be less than significant. **(Less-than-Significant Cumulative Impact)**

Hazards and Hazardous Materials

Several projects included within the cumulative scenario would be located in previous agricultural areas. There is a risk that chemical contamination in soils or groundwater could be released during construction could expose construction workers and members of the public during construction activities. The proposed project and all projects in the cumulative scenario would, however, be required to implement Soils Management Plans or other relevant hazardous materials management plan to reduce any potential for impacts (including cumulative impacts) as a result of a release. Further, hazardous materials and other public health and safety issues are generally site-specific and would be unlikely to occur at the same time such that a cumulative impact would occur. As a result, any cumulative impact would be less than significant. **(Less-than-Significant Cumulative Impact)**

Hydrology and Water Quality

The geographic area for the project's cumulative hydrology and water quality impacts would be limited to Llagas Creek and watershed. As a direct result of the regulations discussed in Section 4.10 Hydrology and Water Quality, all development projects (including the proposed project) are required to implement plans to avoid, minimize, and/or mitigate water quality impacts during both construction and operation. For these reasons, the cumulative projects (which would be required by local permitting agencies to be in compliance with applicable regulations) would not result in significant cumulative hydrology or water quality impacts. **(Less-than-Significant Cumulative Impact)**

GHG Emissions

BAAQMD's approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California laws enacted to reduce statewide GHG emissions needed to move towards climate stabilization. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact, which would be considered a significant environmental impact under CEQA.

As discussed in Section 4.8 Greenhouse Gas Emissions, the project would result in a less-than-significant project-level GHG emissions impact (with inclusion of MM GHG-1.1); therefore it would also result in a less-than-significant cumulative impact. **(Less-than-Significant Cumulative Impact with Mitigation)**

Land Use and Planning/Population and Housing

Development as part of cumulative projects shown in Table 5.4-1 would result in a change of use and/or an intensification of development at each project's respective site. However, the proposed project is consistent with the General Plan land use designation for the site and therefore would not contribute to any land use compatibility impacts or conflicts. Additionally, the project would not displace housing or result in unplanned growth; therefore, it would not contribute to a cumulative impact. **(Less-than-Significant Cumulative Impact)**

Public Services and Recreation

The project would not result in a net increase in population as the 20 additional employees associated with the project would likely come from other area Shamrock Seed facilities in the vicinity and are already living in the project area. These workers are already considered to be part of the existing demand for public services; therefore, the project would not have a cumulatively considerable contribution to an increase in demand or need for new for schools, parks, or other public services or facilities. **(Less-than-Significant Cumulative Impact)**

Transportation/Traffic

Projects that generate fewer than 100 peak hour trips are presumed to have a less than significant impact and no cumulatively considerable impact on the LOS of local intersections per CMP guidance. The project would result in an additional approximately 66 new vehicle trips per day, well below the 100 peak hour trip threshold and would, therefore, have a less-than-significant cumulative impact.[87] **(Less-than-Significant Cumulative Impact)**

Utilities

The project would not generate wastewater or stormwater that would flow to a municipal system; therefore, it would not contribute to a cumulative utilities impact. Water is supplied by an existing, permitted well and the project would decrease the average annual water use at the site; therefore, a cumulative impact to water supplies would not occur. Additionally, the project's solid waste

[87] Institute of Transportation Engineers. *Trip Generation Manual, 10th Edition.* September 2017. Research and Development Use Code (760).

generation would be minimal for the 20 additional employees at the site and would not result in a cumulative impact, especially in relation to existing landfill capacity. **(Less-than-Significant Cumulative Impact)**

SECTION 6.0 GROWTH-INDUCING IMPACTS

For the purposes of this EIR, a growth-inducing impact is considered significant if the project would:

- Cumulatively exceed official regional or local population projections;
- Directly induce substantial growth or concentration of population. The determination of significance shall consider the following factors: the degree to which the project would cause growth (i.e., new housing or employment generators) or accelerate development in an undeveloped area that exceeds planned levels in local land use plans; or
- Indirectly induce substantial growth or concentration of population (i.e., introduction of an unplanned infrastructure project or expansion of a critical public facility such as a road or sewer line necessitated by new development, either of which could result in the potential for new development not accounted for in local general plans).

The proposed project would include up to 20 additional employees, many of whom already work in the area, which would not result in an exceedance of local population projections. Infrastructure expansion (municipal facilities or roads) to the project site would also not occur. The project is consistent with the General Plan designation and zoning at the site. The project, therefore, would not have a significant growth-inducing impact.

SECTION 7.0 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA requires that an EIR address "significant irreversible environmental changes which would be involved in the proposed project, should it be implemented." Significant irreversible environmental changes as a result of the project are described below.

7.1 USE OF NONRENEWABLE RESOURCES

Energy would be consumed during both the construction and operational phases of the project. The construction phase would require the use of nonrenewable resources as part of construction materials, including concrete, metals, plastics, and glass. Nonrenewable resources and energy would also be consumed during the manufacturing and transportation of building materials, preparation of the site, and construction of the buildings. Energy, in the form of fossil fuels, will be used to fuel vehicles traveling to and from the project site.

The project would not result in a substantial increase in demand for nonrenewable resources because it would be subject to the standard Title 24 and CalGreen energy efficiency requirements. As discussed in Section 4.6 Energy, the project would be supplied with 100 percent GHG emission-free electricity and would be consistent with General Plan policies regarding energy use.

SECTION 8.0 ALTERNATIVES

8.1 INTRODUCTION

Section 15126.6 of the CEQA Guidelines requires that an EIR describe a reasonable range of alternatives to the proposed project that could feasibly attain most of the stated objectives while avoiding or reducing significant impacts. The CEQA Guidelines emphasize a reasonable approach that "foster(s) informed decision making and public participation," and focuses on alternatives that avoid or substantially lessen the significant impacts. The project objectives, significant impacts, and a discussion of alternatives to the proposed project follow.

8.2 PROJECT OBJECTIVES

The stated objectives of the project proponent are to:

- Modernize existing research facility with new technology to stay competitive in the agricultural research industry;
- Modernize existing greenhouses to provide appropriate environment for plant research and breeding;
- Consolidating research activities into a single facility in southern Santa Clara County that will serve its production facilities located in California, the Eastern United States, Mexico, and Central America;
- Locate the research building and greenhouses on already developed land to preserve the remainder of the site for agricultural production;
- Configure greenhouses and the research building in an appropriate north-facing direction to ensure sufficient ambient light exposure, maximize energy efficiency of cooling systems, and limit dust related issues created by wind;
- Provide artificial light in greenhouses to supplement the shortage of ambient light during the day providing the required light period of 16 hours;
- Limit the covering of the greenhouses to help reduce potential seed contamination from fungus or bacteria and ensure proper regulation of temperature, humidity, and air flow inside the greenhouses; and
- Maintain the location of the Shamrock Seed Company in southern Santa Clara Valley.

8.3 PROJECT IMPACTS

The CEQA Guidelines advise that the alternatives analysis in an EIR should be limited to alternatives that would avoid or substantially lessen the significant impacts of the project and achieve most of the project objectives. Impacts that would occur as a result of the project are described below.

8.3.1 Less than Significant Impacts with Mitigation

The project impacts listed below would be reduced to a less-than-significant level with the identified mitigation measures included as part of the project:

- **Aesthetics:** vertical illumination from the greenhouses

- **Biological Resources:** impacts to nesting birds
- **Cultural Resources:** impacts to unknown buried cultural resources and human remains
- **GHG Emissions:** project-level and cumulative impacts as a result of exceedance of emissions thresholds
- **Hazards and Hazardous Materials:** soil contamination
- **Noise:** construction and mechanical equipment noise

The project would not result in any significant, unavoidable impacts.

8.4 ALTERNATIVES ANALYSIS

CEQA, the CEQA Guidelines, and case law on the subject have found that feasibility of an alternative can be based on a wide range of factors and influences. CEQA Guidelines Section 15364 defines feasibility as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors". The CEQA Guidelines advise that the factors to be taken into account when addressing the feasibility of alternatives can include (but are not necessarily limited to) the suitability of an alternate site, economic viability, availability of infrastructure, consistency with a general plan or with other plans or regulatory limitations, jurisdictional boundaries, and whether the project proponent can "reasonably acquire, control or otherwise have access to the alternative site" (Section 15126.6(f)(1)).

Notably, inclusion of an alternative in an EIR requires only that the alternative be "potentially feasible." The ultimate determination of "actual feasibility" can only be made by final agency decision-makers, who have the discretion under CEQA to reject as "infeasible" alternatives that embody what the decision-makers believe to be unacceptable policy tradeoffs. After weighing "economic, environmental, social, and technological factors," decision-makers "may conclude that an alternative is impractical or undesirable from a policy standpoint and reject it as infeasible on that ground." Similarly, an alternative "may be found infeasible on the grounds it is inconsistent with the project objectives as long as the finding is supported by substantial evidence in the record".[88] The following discussion addresses a location alternative that was considered but rejected.

8.4.1 Alternatives Not Further Analyzed

8.4.1.1 *Location Alternative*

CEQA encourages consideration of an alternative site when significant impacts of the project might be avoided or substantially lessened. In order to identify an alternative site that might reasonably be considered to "feasibly accomplish most of the basic purposes" of the project, and would also avoid project impacts, it is assumed that such a site would need to have the following characteristics:

- Approximately 3.5 acres or more acres in size;
- Zoned for agricultural use;
- Not immediately adjacent to a residential use;
- Wide enough (approximately 600 feet) such that vertical illumination would not occur;

[88] *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1001.

- Located away from water features or other known or potentially sensitive cultural areas;
- Not have trees present within 250 feet of the site; and
- Available.

A Location Alternative in south Santa Clara County would potentially avoid the less-than-significant (with mitigation) aesthetic, biology, cultural resources, and noise impacts; but would not be likely to avoid the less-than-significant (with mitigation) hazardous materials impact because the majority of agricultural parcels in the southern Santa Clara County area would have a history of chemical use/exposure. The GHG-emissions impacts would likely be the same because other parcels located in the area would likely result in a similar level of mobile GHG emissions as the proposed project; therefore, this alternative would not avoid or substantially lessen impacts as required under the CEQA Guidelines. For these reasons, a Location Alternative was not further analyzed.

8.4.1.2 *Reduced Development Alternative*

An alternative that would reduce the size of the proposed 10,000-square-foot agricultural research building would potentially reduce employee vehicle trips, the emissions of which would make up the majority of GHG emissions from the project. However, one of the objectives of the project is consolidating research activities into a single facility in southern Santa Clara County. Most of the employees that would work on site would be relocating from other facilities operated by the project proponent. Therefore, actual reductions in vehicle trips would likely not occur because such vehicle trips are already occurring in association with other facilities. It is also possible that the consolidation of research facilities could reduce vehicle miles traveled and therefore reduce mobile emissions compared to existing operations. This alternative was rejected from further consideration because it would not meet the project objectives and would not be likely to reduce impacts.

8.4.1.3 *Project 150-Foot Setback Alternative with Smaller Structures*

The Project 150-Foot Setback Alternative with Smaller Structures would place the research building, greenhouses, and other project facilities requiring use of noise-generating equipment during construction to be located approximately 150 feet from the adjacent property line to the northwest, thereby reducing noise levels to below the County's 75 dBA limit. Operational noise from standard rooftop equipment would also likely be below the County's 45 dBA limit at this distance; therefore, both impacts would likely be reduced to a less-than-significant level (without mitigation).

This alternative would, however, necessitate reoriented, smaller structures (by at least 50 percent) given the narrow 230-foot lot width and presence of the potentially historic barn on the property, impacts to which would need to be avoided. This alternative was rejected because it would not meet the applicant's objectives to utilize already developed areas on the site while preserving existing agricultural uses consistent with the Williamson Act Compatible Use Determination (Appendix C).

8.4.2 Analyzed Alternatives

In addition to a No Project Alternative, the CEQA Guidelines advise that the range of alternatives discussed in the EIR be limited to those that "would avoid or substantially lessen any of the significant impacts of the project" (Section 15126.6(f)). The discussion below addresses a No Project-No Development Alternative and two redesign alternatives. These three alternatives are

discussed with regard to their potential impacts as compared to the proposed project, and with regard to the project objectives.

8.4.2.1 *No Project - No Development Alternative*

The CEQA Guidelines require that an EIR include a No Project - No Development Alternative to allow decision-makers to compare the impacts of approving the project with the impacts of not approving the project. Under the No Project – No Development Alternative, the existing uses would remain; therefore, this alternative would avoid the proposed project's less than significant (with mitigation) aesthetic, biological, cultural, GHG emissions, hazardous materials, and noise impacts, as well as all other less than significant impacts. The alternative would not, however, meet any of the proposed project objectives of consolidating seed research operations in a new, modern facility in southern Santa Clara Valley.

8.4.2.2 *Project Redesign (Solid Greenhouse Walls) Alternative*

A Project Redesign Alternative would provide for the greenhouses to be located within permanent buildings with solid walls, such that that no light would escape and no impact would occur. While this alternative would avoid the less-than-significant (with mitigation) aesthetic impact related to lighting, it would not avoid the less-than-significant (with mitigation) biological, cultural, GHG emissions, hazardous materials impacts. Construction-related air quality and noise impacts could potentially be greater due to a longer construction timeframe needed to build solid-walled structures.

This alternative would also not meet the project objectives of placing the greenhouses and the research building in an appropriate north-facing direction to ensure sufficient ambient light exposure, and maximize energy efficiency of cooling systems. Further, the applicant's objectives call for limiting the covering of the greenhouses to help reduce potential seed contamination from fungus or bacteria and ensure proper regulation of temperature, humidity, and air flow inside the greenhouses; which could be compromised with more permanent walled structures. This alternative would meet objectives related to consolidation of seed research into a modern facility, locating the research building and greenhouses on already developed land to preserve the remainder of the site for agricultural production, and maintaining the location of the Shamrock Seed Company in southern Santa Clara Valley.

8.4.3 Alternatives Summary

The following Table 1.3-1 summarizes the project's environmental impacts as compared to the three alternatives described above.

Table 8.4-1: Summary of Project and Project Alternative Impacts			
Impacts	**Project**	**No Project**	**Project Redesign (Solid Greenhouse Walls)**
Aesthetics			
Impact AES-1: Vertical illumination from the proposed project greenhouses would exceed the 0.1 footcandle (fc) threshold by 79 times as measured 10 feet from the northwest property line on the adjacent property in the vertical plane.	LTS w/M	NI	NI
Biological Resources			
Impact BIO-1: Noise and equipment activity associated with construction activities at the proposed project site could impact nesting migratory birds due to the loss of fertile eggs or nest abandonment.	LTS w/M	NI	LTS w/M
Cultural Resources			
Impact CUL-1: Unknown archaeological resources could be damaged during construction of the project.	LTS w/M	NI	LTS w/M
Impact CUL-2: Project activities could disturb human remains, including those interred outside of formal cemeteries.	LTS w/M	NI	LTS w/M
Greenhouse Gas Emissions			
Impact GHG-1/C-GHG-1: The project would generate greenhouse gas emissions in excess of the Substantial Progress 2030 threshold.	LTS w/M	NI	LTS w/M
Noise			
Impact NOI-1: Within 150 feet of the adjacent single-family residential property line to the west, construction equipment noise would exceed the 75 dBA level specified in County Code Section B11-154.	LTS w/M	NI	LTS w/M

Table 8.4-1: Summary of Project and Project Alternative Impacts			
Impacts	**Project**	**No Project**	**Project Redesign (Solid Greenhouse Walls)**
Impact NOI-2: Noise from project mechanical equipment could result in noise levels at the adjacent property lines exceeding the 45 dBA limit specified in Section B11-154(b)(12) of the Noise Ordinance.	LTS w/M	NI	LTS w/M
Notes: LTS/M = less than significant impact with mitigation incorporated; NI = no impact **Shading** indicates being environmentally superior to the proposed project. * Indicates the potential for a lessened impact, though not to the point that the environmental significance level would change.			

8.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines state than an EIR shall identify an environmentally superior alternative. If the environmentally superior alternative is the "No Project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (Section 15126.6(e)(2)). The environmentally superior alternative would be the No Project - No Development Alternative, which would avoid all project impacts. This alternative would not, however, meet any project objectives.

The Project Redesign Alternative would be the environmentally superior alternative among the other project alternatives because it would avoid the the less-than-significant (with mitigation) aesthetics impact while still maintaining some of the ability of the project applicant to meet several of their specified objectives, though at a lessened scale.

SECTION 9.0 REFERENCES

Access Fixtures. "Why do Vertical and Horizontal Illuminances Matter?". Accessed June 19, 2018. https://www.accessfixtures.com/vertical-horizontal-illuminances-matter/.

ACD. "What is a Foot Candle and How is it Measured?". Accessed June 19, 2018. https://blog.acdist.com/led-lighting-what-is-a-foot-candle.

AEI Consultants. Phase I Environmental Site Assessment. August 23, 2013.

Association of Environmental Professionals. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. 2016.

Azevedo, Becky. Technical Manager, Waste Management. Personal Communication with Rogers, Tyler. April 17, 2017.

BAAQMD. "Annual Bay Area Air Quality Summaries." Accessed May 4, 2018. http://www.baaqmd.gov/about-air-quality/air-quality-summaries.

California Air Pollution Officers Association. CalEEMod. Program utilized May 2018.

California Building Standards Commission. "Welcome to the California Building Standards Commission". Accessed February 6, 2018. http://www.bsc.ca.gov/.

California Department of Conservation, Division of Land Resource Protection. *Santa Clara County Important Farmland 2014*. Map. October 2016.

California Department of Forestry and Fire Protection. "Santa Clara County Very High Fire Hazard Zones in LRA." October 8, 2008. Accessed May 18, 2018. http://frap.fire.ca.gov/webdata/maps/santa_clara/fhszl_map.43.pdf.

California Department of mines and Geology. *Generalized Mineral Land Use Classification Map of the Monterey Bay Production-Consumptions Regions North Half*. 1999.

California Department of Resources Recycling and Recovery. "Local Government Jurisdiction Diversion/Disposal Rate Summary". October 24, 2012. Accessed May 18, 2018. http://www.calrecycle.ca.gov/LGCentral/DataTools/Reports/DivDispRtSum.htm.

California Department of Tax and Fee Administration. Net Taxable Gasoline Gallons. Accessed February 16, 2018. http://www.cdtfa.ca.gov/taxes-and-fees/MVF_10_Year_Report.pdf.

California Energy Commission (CEC). "2016 Building Energy Efficiency Standards". Accessed February 6, 2018. http://www.energy.ca.gov/title24/2016standards/index.html.

California Gas and Electric Utilities. 2016 California Gas Report. Accessed February 13, 2018. http://docketpublic.energy.ca.gov/PublicDocuments/16-BSTD-06/TN212364_20160720T111050_2016_California_Gas_Report.pdf.

California Gas and Electric Utilities. 2017 Natural Gas Market Trends and Outlook. Accessed April 3, 2018. http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-

04/TN222400_20180131T074538_STAFF_FINAL_REPORT_2017Natural_Gas_Market_Trends_and_Outlook.pdf.

CalRecycle. "California's Per Capita 2016 Disposal Rate Estimate". Accessed May 23, 2018. http://www.calrecycle.ca.gov/lgcentral/goalmeasure/disposalrate/MostRecent/default.htm.

CalRecycle. "Jurisdiction Disposal by Facility Report". September 28, 2017. http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=ReportYear%3d2016%26ReportName%3dReportEDRSJurisDisposalByFacility%26OriginJurisdictionIDs%3d467.

Caltrans. Transportation and Construction Vibration Guidance Manual. September 2013

CARB. "Overview: Diesel Exhaust and Health". Accessed May 4, 2018. https://www.arb.ca.gov/research/diesel/diesel-health.htm.

Carollo Engineers. *Basin Management Plan Update. Prepared for Pajaro Valley Water Management Agency, Watsonville, CA.* February 2014.

CEC. "Natural Gas Consumption by County". Accessed March 1, 2018. http://ecdms.energy.ca.gov/gasbycounty.aspx.

CEC. "Total System Electric Generation". Accessed February 14, 2018. http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html.

CEC. *2017 Integrated Energy Policy Report*. March 2018. http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-01/TN223085_20180329T142223_Exeutive_Summary_of_the_2017_Integrated_Energy_Policy_Report.pdf.

CEC. *California Energy Demand Updated Forecast, 2017-2027*. Accessed February 14, 2018. http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN214635_20161205T142341_California_Energy_Demand_Updated_Forecast.pdf.

CEC. *California Energy Demand Updated Forecast, 2017-2027*. Accessed February 14, 2018. http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN214635_20161205T142341_California_Energy_Demand_Updated_Forecast.pdf.

CEC. Energy Consumption Data Management System. "Electricity Consumption by County". Accessed July 13, 2016. http://ecdms.energy.ca.gov/elecbycounty.aspx.

CEC. "Total System Electric Generation". Accessed February 13, 2018. http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html.

City of Gilroy. "Park & Facility Rentals | Gilroy, CA – Official Website." Accessed: May 18, 2018. http://www.cityofgilroy.org/538/Park-Facility-Rentals.

City of Gilroy. *Gilroy 2020 General Plan*. June 2002.

County of Santa Clara County. "About Us – Parks and Recreation – County of Santa Clara.". Accessed May 18, 2018. Available at: https://www.sccgov.org/sites/parks/AboutUs/Pages/About-the-County-Regional-Parks.aspx.

County of Santa Clara County. "The Sheriff's Office – Sheriff – County of Santa Clara". 2017. Accessed May 18, 2018. https://www.sccgov.org/sites/sheriff/Pages/overview.aspx.

DTSC. Envirostor Database. Accessed May 18, 2018. http://www.envirostor.dtsc.ca.gov/public/map/?myaddress=6640+Holsclaw+road.

DTSC. "Hazardous Waste and Substances Site List (Cortese)". Accessed March 27, 2018. http://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=cortese&site_type=csites,open,fuds,close&status=act,bklg,com,colur&reporttitle=hazardous+waste+and+substances+site+list+(cortese).

DTSC. Envirostor. Hazardous Waste and Substances List (Cortese). Accessed May 18, 2018. http://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+(CORTESE).

EIA. "California State Profile and Energy Estimates Profile Analysis". Accessed February 13, 2018. https://www.eia.gov/state/analysis.php?sid=CA#40.

EIA. "Natural Gas Delivered to Consumers in California". Accessed May 8, 2018. http://www.eia.gov/dnav/ng/ng_sum_lsum_dcu_SCA_a.htm.

FEMA. "FEMA Flood Map Service Center: Search by Address". Accessed May 18, 2018. https://msc.fema.gov/portal/search.

Federal Transportation Authority. *Guide on Transit Noise and Vibration Impact Assessment Methodology*. 2006

Garavaglia Architecture, Inc. 6640 Holsclaw Road, Gilroy, CA Historic Resource Evaluation; SISR Project Review 6650 Holsclaw Road, Gilroy, CA SISR Project Review. June 19, 2018.

Holman & Associates. Archaeological Survey for the Shamrock Seed Agricultural Research Project. April 2018.

Institute of Transportation Engineers. *Trip Generation Manual, 10th Edition.* September 2017. Research and Development Use Code (760).

Kelapanda, Achaya. Environmental Manager, Newby Island Sanitary Landfill. Personal communication with Weiss, Kristy. May 17, 2018.

Michael Baker International. Shamrock Seed Project – Lighting Technical Memorandum. June 25, 2018.

Musy-Verdel, Amanda. Spreadsheet emailed to Ashton, Amie. Santa Clara County Gilroy Research Station AG Water Usage. May 30, 2018.

National Highway Traffic Safety Administration. *Obama Administration Finalizes Historic 54.5 mpg Fuel Efficiency Standards.* August 28, 2012. Accessed February 8, 2018. http://www.nhtsa.gov/About+NHTSA/Press+Releases/2012/Obama+Administration+Finalizes+Historic+54.5+mpg+Fuel+Efficiency+Standards.

Reyff, James. Illingworth & Rodkin, Inc. Email correspondence with Sharpe, Amber. May 9, 2018.

Santa Clara County General Plan. Regional Parks and Scenic Highways. Accessed May 3, 2018. https://www.sccgov.org/sites/dpd/DocsForms/Documents/GP_Parks_ScenicRoads.pdf

Santa Clara County. *Hazards Zones Maps.* 2012.

Santa Clara Valley Habitat Agency. "Habitat Agency Geobrowser". Accessed May 4, 2018. http://www.hcpmaps.com/habitat/.

Santa Clara Valley Habitat Agency. Final Santa Clara Valley Habitat Plan. August 2012.

Santa Clara Valley Habitat Agency. Geobrowser. Accessed May 7, 2018. http://www.hcpmaps.com/habitat/.

SCVWD. *2016 Groundwater Management Plan*.

SCVWD. Creek and Watershed Map of Morgan Hill and Gilroy. 2009 https://www.water.ca.gov/LegacyFiles/groundwater/docs/GWMP/SF-1_SantaClaraValleyWD_GWMP_2012.pdf.

South Santa Clara County Fire District. "About Us South Santa Clara County Fire District". Accessed May 18, 2018. http://www.ssccfd.com/about/.

State of California. "2013 State Hazards Mitigation Plan." Accessed April 19, 2018. http://www.caloes.ca.gov/for-individuals-families/hazard-mitigation-planning/state-hazard-mitigation-plan.

State of California. "Find an Office". 2017. Accessed May 18, 2018. https://www.chp.ca.gov/find-an-office.

SVCE. "Frequently Asked Questions". Accessed October 9, 2017. https://www.svcleanenergy.org/faqs.

SVCWD. "Leroy Anderson Dam Flood Inundation Map Santa Clara County". April 2016.

U.S. EIA. *California State Profile and Energy Estimates: Profile Analysis.* Accessed February 8, 2018. http://www.eia.gov/beta/state/analysis.cfm?sid=CA

U.S. EPA. Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles. Accessed February 6, 2018. http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/html/table_04_23.html.

USFWS. National Wetlands Inventory. Mapper. Accessed August 15, 2018.https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/.

U.S. Geological Survey. "Earthquake Outlook for the San Francisco Bay Region 2014-2043". Fact Sheet 2016-3020. Accessed February 6, 2018. https://pubs.usgs.gov/fs/2016/3020/fs20163020.pdf.

U.S. Geological Survey. "Seismic Seiches." Accessed March 30, 2018. http://earthquake.usgs.gov/learn/topics/seiche.php.

United State Census Bureau. America FactFinder. "2012-2016 American Community Survey 5-Year Estimates". 2015. Accessed May 22, 2018. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF.

SECTION 10.0 LEAD AGENCY AND CONSULTANTS

10.1 LEAD AGENCY

County of Santa Clara
Department of Planning and Development
Rob Salisbury, Planning Manager
Manira Sandhir, Principal Planner
David M. Rader, Senior Planner

10.2 CONSULTANTS

David J. Powers & Associates, Inc.
Environmental Consultants and Planners
Judy Shanley, Principal
Amie Ashton, Project Manager
Zach Dill, Graphic Artist

Michael Baker International
Lighting Consultant

Holman & Associates
Archaeological Consultant

Garavaglia Architecture, Inc.
Historic Consultant