

**DRAFT INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION**

**GREENZONE, LLC-
CANNABIS BUSINESS PARK**



DECEMBER 2022



**DRAFT INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION**

**GREENZONE, LLC
CANNABIS BUSINESS PARK**



Prepared for:

City of Livingston
1416 C Street
Livingston, CA 95334
Contact Person: Contract City Planner
Phone: (209) 394-8041

Consultant:



2816 Park Avenue
Merced, CA 95348
Contact: Spencer Supinger, PE
Phone: (209) 723-206

December 2022

NOTICE OF PUBLIC HEARING AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

This is to advise that the City of Livingston has prepared an Initial Study and Mitigated Negative Declaration for the Project identified below that is scheduled to be considered by the City of Livingston.

PLEASE BE ADVISED that the Planning Commission will consider the Mitigated Negative Declaration (MND) at the Commission's meeting to be held on **March 14, 2023**. The meeting will be held at the City Council Chamber, 1416 C Street, Livingston, CA. The Planning Commission will adopt a Resolution recommending adoption of the MND to the City Council. City Council Consideration of the MND and the proposed project will be scheduled for a separate date upon action taken by the Planning Commission

Project Name

Greenzone, LLC - Cannabis Business Park

Project Location

The Project site is located approximately 0.4 miles west of Main Street, just north of Bird Street as it turns north to the Police Department Shooting Range in the northern-most part of the City of Livingston, California, which is one of six incorporated cities in Merced County (Figures 2-1 and 2-2). State Route (SR) 99 is approximately one mile west of the site. The Project parcel is identified by the assessor's parcel number (APN) 047-090-004. The site is predominately surrounded by agricultural land. Presently, the site predominantly consists of fallow agricultural land. A canal trends southwest-northeast through the site.

Project Description

The applicant is proposing to subdivide an 18.8-acre parcel into 22 lots ranging from approximately 0.66 acres to 1.46 acres in size, and a dedicated stormwater detention basin (Lot A). The Project would ultimately result in a secured, gated Cannabis Business Park with a future 25-foot-wide internal road being privately owned and maintained. The site is bisected by the Merced Irrigation District (MID) Stoddard Lateral that runs diagonally through the site and will be piped and undergrounded.

According to Section 5-3-15, Land Use Regulations (Zoning Matrix) from the City's Municipal Code, the following cannabis-related uses could be included within the proposed Cannabis Business Park with approval of a Conditional Use Permit:

- Commercial cannabis cultivation – indoor
- Commercial cannabis cultivation – mixed light (enclosed)
- Commercial cannabis distribution
- Commercial cannabis manufacturing (volatile/nonvolatile)
- Commercial cannabis – microbusiness (no retail; no outdoor cultivation)

- Commercial cannabis nursery – indoor or mixed light/greenhouse
- Commercial cannabis testing

The Project Applicant has filed a Master Conditional Use Permit (MCUP) requesting authorization to allow the above uses, as well as any future cannabis-related permitted use or conditionally permitted use, on the subject site. Although retail cannabis uses are not permitted anywhere within city limits at this time, the Applicant is requesting all future permitted cannabis-related uses, including retail, be considered under this MCUP. Although the ultimate intent for the TSM is to construct a Cannabis Business Park, if cannabis-related uses are not forthcoming, then the 22 lots may result in the construction of other non-cannabis industrial uses as permitted in the Zoning Ordinance. Therefore, according to Municipal Code Title 5, Chapter 2, if cannabis-related uses are not established, the following uses could be either a permitted use or a conditionally permitted use within the M-1 zone:

- Auto body repair
- Auto storage
- Auto wrecking
- Body art establishment
- Finished goods assembly
- Heavy terminal
- Kennel
- Manufacturing, beverage/bottling plant
- Manufacturing, heavy general
- Manufacturing, light general
- Recycling facility
- Salvage yards
- Smoke shop and/or smoking lounge

The ultimate buildout of the 22 lots and basin lot (Lot A), whether it includes cannabis-related uses or not, would need to be consistent with City's General Plan, Zoning Ordinance, and would need to meet the intent of the M-1 zone district.

Site plan and design review approvals are required for all uses involving new construction, significant exterior alterations to existing structures, or significant site plan alterations in the M-1 zone. Also included with the application is a site plan, floor plan, and elevation depicting typical buildout of the proposed lots. It is the staff's intention to seek the City Council's approval of the sample site plan and to obtain Council's authorization for staff-level approval of future site plans deemed sufficiently consistent with the sample going forward.

As noted above, some of these uses listed may require conditional use permits or other discretionary review, subject to the determination of compliance with the development, parking, landscaping, and other standards of the Zoning Ordinance. All future cannabis-related uses will be subject to the City's two-step cannabis permitting process. Due to the size, complexity, unusual features or other concerns, any project subject to administrative or

conditional approval, may be further reviewed under CEQA at the discretion of the Planning Director.

The document and documents referenced in the Initial Study/Mitigated Negative Declaration are available for review at Livingston City Hall located at 1416 C Street, Livingston, CA 95334 and at the Livingston Branch Library located at 1212 Main Street Livingston, CA 95334. In addition, digital versions of the Initial Study and related documents are available at the City's website at:

<https://www.cityoflivingston.org/commdev/page/planning-division>

As mandated by the California Environmental Quality Act (CEQA), the public review period for this document is 30 days (CEQA Section 15073[b]). **The public review period began on January 20, 2023 and ended on February 20, 2023.**

For further information, please contact the Contract City Planner at (209) 394-8041.

Table of Contents

<i>Acronyms and Abbreviations.....</i>	<i>iv</i>
<i>Mitigated Negative Declaration.....</i>	<i>1</i>
<i>SECTION 1 - Introduction.....</i>	<i>1-1</i>
1.1 - Overview	1-1
1.2 - California Environmental Quality Act.....	1-1
1.3 - Impact Terminology	1-2
1.4 - Document Organization and Contents	1-2
1.5 - Incorporated by Reference	1-2
<i>SECTION 2 - Project Description.....</i>	<i>2-1</i>
2.1 - Introduction.....	2-1
2.2 - Project Location	2-1
2.3 - Surrounding Land Uses	2-1
2.4 - Proposed Project.....	2-1
<i>SECTION 3 - Initial Study.....</i>	<i>3-1</i>
3.1 - Environmental Checklist.....	3-1
3.2 - Environmental Factors Potentially Affected	3-3
3.3 - Determination.....	3-3
3.4 - Evaluation of Environmental Impacts	3-5
3.4.1 - Aesthetics.....	3-7
3.4.2 - Agriculture and Forestry Resources	3-10
3.4.3 - Air Quality.....	3-15
3.4.4 - Biological Resources.....	3-19
3.4.5 - Cultural Resources	3-35
3.4.6 - Energy	3-38
3.4.7 - Geology and Soils	3-40
3.4.8 - Greenhouse Gas Emissions	3-48
3.4.9 - Hazards and Hazardous Materials	3-51
3.4.10 - Hydrology and Water Quality.....	3-55
3.4.11 - Land Use and Planning.....	3-63
3.4.12 - Mineral Resources	3-65
3.4.13 - Noise.....	3-67
3.4.14 - Population and Housing	3-71
3.4.15 - Public Services.....	3-73
3.4.16 - Recreation.....	3-78
3.4.17 - Transportation and Traffic.....	3-80
3.4.18 - Tribal Cultural Resources	3-89

3.4.19 - Utilities and Service Systems.....	3-92
3.4.20 - Wildfire	3-97
3.4.21 - Mandatory Findings of Significance.....	3-100
SECTION 4 - List of Preparers.....	4-1
4.1 - Lead Agency.....	4-1
4.2 - QK Inc.	4-1
4.3 - Subconsultants	4-1
SECTION 5 - Bibliography.....	5-1

Appendices

Appendix A – Mitigation Monitoring and Reporting Program
Appendix B – Special-Status Species Table
Appendix C – Cultural Records Search
Appendix D – Geotechnical Engineering Investigation
Appendix E – Traffic Impact Study
Appendix F – Tribal Consultation Letters

List of Figures

Figure 2-1 Regional Location Map.....	2-3
Figure 2-2 Vicinity Map.....	2-4
Figure 2-3 General Plan Designation Map	2-5
Figure 2-4 Zoning Map	2-6
Figure 2-5 Proposed Tentative Subdivision Map.....	2-7
Figure 2-6 Proposed Phasing Plan.....	2-13
Figure 2-7 Conceptual Site Plan.....	2-14
Figure 3.4.2-1 Williamson Act Land Use Contract.....	3-12
Figure 3.4.4-1 Vegetation Communities within the BSA.....	3-21
Figure 3.4.7-1 Soil Types in Project Area	3-45
Figure 3.4.10-1 FEMA Flood Map.....	3-61

List of Tables

Table 3.4.3-1 Small Project Analysis Level by Vehicle Trips	3-16
Table 3.4.3-2 Land Use Category – Industrial.....	3-16
Table 3.4.4-1 Habitat Acreages Observed Within BSA and Project Site.....	3-22
Table 3.4.4-2 Special-Status Species with Potential to Occur On-Site	3-24
Table 3.4.10-1 Project Estimated Water Demand	3-58

Table 3.4.13-1 Noise Levels Generated by Typical Construction Equipment from 50 and 100 feet away	3-68
Table 3.4.13-2 Human Response to Different Levels of Ground-borne Vibration	3-69
Table 3.4.13-3 Different Levels of Ground-borne Vibration (25 Feet from Equipment) ...	3-69
Table 3.4.17-1 Project Trip Generation	3-81
Table 3.4.17-2 Intersection Operations	3-82
Table 3.4.17-3 Queuing Operations.....	3-84
Table 3.4.17-4 Segment Operations	3-85

ACRONYMS AND ABBREVIATIONS

Assembly Bill (AB)	3-48
assessor's parcel number (APN)	2-1
Best Management Practices (BMPs)	3-42
Biological Study Area (BSA)	3-20
California Bureau of Cannabis Control (CalCannabis)	3-2
California Department of Fish and Wildlife (CDFW)	3-2
California Department of Food and Agriculture (CDFA)	3-2
California Department of Public Health (CDPH)	3-2
California Department of Transportation (Caltrans)	3-2
California Environmental Quality Act (CEQA)	1-1
California Native Plant Society (CNPS)	3-20
California Natural Diversity Database (CNDDB)	3-20
California Wildlife Habitat Relationship (CWHR)	3-22
carbon dioxide (CO ₂)	3-47
Central California Information Center (CCIC)	3-34
Department of Parks and Recreation (DPR)	3-35
Environmental Protection Agency (EPA)	3-47
Farmland Mapping and Monitoring Program (FMMP)	3-11
Floor Area Ratio (FAR)	3-16
Greenhouse Gases (GHGs)	3-47
Groundwater Sustainability Agencies (GSA)	3-57
Groundwater Sustainability Plans (GSP)	3-57
Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI)	3-15
halogenated fluorocarbons (HCFCs)	3-47
Hazardous Air Pollutants (HAPs)	3-17
hydrofluorocarbons (HFCs)	3-47
Industrial Reserve (IR)	3-1
Information for Planning and Consultation (IPaC)	3-20
Initial Study (IS)	1-1
Institute of Transportation Engineers (ITE)	3-84
Limited Industrial (M-1)	2-1
methane (CH ₄)	3-47
Merced Irrigation District (MID)	2-2
million gallons per day (mgd)	3-56
Mitigated Negative Declaration (MND)	1-1
Mitigation Monitoring and Reporting Program (MMRP)	1-1
most likely descendant (MLD)	3-36
National Hydrology Database (NHD)	3-20
National Pollution Discharge Elimination System (NPDES)	3-42
National Wetlands Inventory (NWI)	3-20
Native American Heritage Commission (NAHC)	3-36
nitrous oxide (N ₂ O)	3-47
Notice of Intent (NOI)	3-42

ozone (O ₃)	3-47
Pacific Gas and Electric Company (PG&E)	3-48
perfluorinated carbons (PFCs).....	3-47
Programmatic Environmental Impact Report (PEIR).....	3-77
Public Resources Code (PRC)	3-36
Regional Water Quality Control Board (RWQCB).....	3-2
Renewables Portfolio Standard (RPS)	3-48
San Joaquin Valley Air Pollution Control District (SJVAPCD)	3-2
Small Project Analysis Level (SPAL)	3-15
State Route (SR).....	2-1
Storm Water Pollution Prevention Plan (SWPPP)	3-42
sulfur hexafluoride (SF ₆)	3-47
Sustainable Groundwater Management Act (SGMA)	3-57
Tentative Subdivision Map (TSM)	2-1
toxic air contaminants (TACs).....	3-17
US Fish and Wildlife Service (USFWS)	3-20
vibration decibels (VdB).....	3-71
Wastewater Treatment Plant (WWTP)	3-92

MITIGATED NEGATIVE DECLARATION

As Lead Agency under the California Environmental Quality Act (CEQA), the City of Livingston reviewed the Project described below to determine whether it could have a significant effect on the environment because of its development. In accordance with CEQA Guidelines Section 15382, “[s]ignificant effect on the environment” means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Project Name

Greenzone, LLC – Cannabis Business Park

Project Location

The Project site is located approximately 0.4 miles west of Main Street, just north of Bird Street as it turns north to the Police Department Shooting Range in the northern-most part of the City of Livingston, California, which is one of six incorporated cities in Merced County (Figures 2-1 and 2-2). State Route (SR) 99 is approximately one mile west of the site. The Project parcel is identified by the assessor’s parcel number (APN) 047-090-004. The site is predominately surrounded by agricultural land. Presently, the site predominantly consists of fallow agricultural land. A canal trends southwest-northeast through the site. A PG&E electrical power line is located along the northern boundary line of the subject property.

Project Description

The Applicant is proposing to subdivide an 18.8-acre parcel into 22 lots ranging from approximately 0.66 acres to 1.46 acres in size, and a dedicated stormwater detention basin (Lot A). The basin would be privately owned and maintained if the proposed subdivision is private and gated. The Project would ultimately result in a secured, gated Cannabis Business Park with a future 25-foot-wide internal road being privately owned and maintained. The site is bisected by the Merced Irrigation District (MID) Stoddard Lateral that runs diagonally through the site and will be piped, realigned, and undergrounded.

The Tentative Subdivision Map (TSM) would ultimately consist of the buildout of a Cannabis Business Park. Specific future uses on the property have not been determined at this time, but could include what is currently permitted within the City of Livingston Zoning Code for the Limited Industrial (M-1) zone.

According to Section 5-3-15, Land Use Regulations (Zoning Matrix) from the City’s Municipal Code, the following cannabis-related uses could be included within the proposed Cannabis Business Park with approval of a Conditional Use Permit:

- Commercial cannabis cultivation – indoor
- Commercial cannabis cultivation – mixed light (enclosed)

- Commercial cannabis distribution
- Commercial cannabis manufacturing (volatile/nonvolatile)
- Commercial cannabis – microbusiness (no retail; no outdoor cultivation)
- Commercial cannabis nursery – indoor or mixed light/greenhouse
- Commercial cannabis testing

The Project Applicant has filed a Master Conditional Use Permit (MCUP) requesting authorization to allow the above uses, as well as any future cannabis-related permitted use or conditionally permitted use, on the subject site. Although retail cannabis uses are not permitted anywhere within city limits at this time, the Applicant is requesting all future permitted cannabis-related uses, including retail, be considered under this MCUP. Although the ultimate intent for the TSM is to construct a Cannabis Business Park, if cannabis-related uses are not forthcoming, then the 22 lots may result in the construction of other non-cannabis industrial uses as permitted in the Zoning Ordinance. Therefore, according to Municipal Code Title 5, Chapter 2, if cannabis-related uses are not established, the following uses could be either a permitted use or a conditionally permitted use within the M-1 zone:

- Auto body repair
- Auto storage
- Auto wrecking
- Body art establishment
- Finished goods assembly
- Heavy terminal
- Kennel
- Manufacturing, beverage/bottling plant
- Manufacturing, heavy general
- Manufacturing, light general
- Recycling facility
- Salvage yards
- Smoke shop and/or smoking lounge

The ultimate buildout of the 22 lots and basin lot, whether it includes cannabis-related uses or not, would need to be consistent with City's General Plan, Zoning Ordinance, and would need to meet the intent of the M-1 zone district.

Site plan and design review are required for all uses involving new construction, significant exterior alterations to existing structures, or significant site plan alterations in the M-1 zone. Also included with the application is a site plan, floor plan, and elevation depicting typical buildout of the proposed lots. It is the staff's intention to seek the City Council's approval of the sample site plan and to obtain the Council's authorization for staff-level approval of future site plans deemed sufficiently consistent with the sample going forward.

As noted above, some of these uses listed may require conditional use permits or other discretionary review, subject to the determination of compliance with the development, parking, landscaping, and other standards of the Zoning Ordinance. All future cannabis-

related uses will be subject to the City's two-step cannabis permitting process. Due to the size, complexity, unusual features, or other concerns, any project subject to administrative or conditional approval, may be further reviewed under CEQA at the discretion of the Planning Director.

Mailing Address and Phone Number of Contact Person

City of Livingston
1416 C Street
Livingston, CA 95334
Phone: (209) 394-8041

Findings

As Lead Agency, the City of Livingston finds that the Project will not have a significant effect on the environment. The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) (see *Section 3 – Environmental Checklist*) identified one or more potentially significant effects on the environment, but revisions to the Project have been made before the release of this Mitigated Negative Declaration (MND) or mitigation measures would be implemented that reduce all potentially significant impacts to less-than-significant levels. The Lead Agency further finds that there is no substantial evidence that this Project would have a significant effect on the environment.

Mitigation Measures Included in the Project to Avoid Potentially Significant Effects

- MM AQ-1:** Prior to issuance of grading or building permits, the developer shall provide the City with evidence from the SJVAPCD of an approved Dust Control Plan or Construction Notification form under Regulation VIII – Fugitive Dust PM₁₀ Prohibitions. The subdivision project may be subject to other rules including Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operation). The developer will be required to carry out measures of applicable SJVAPCD Rules and Regulations as noted.
- MM BIO-1:** Within 14 days of the start of Project activities on-site and in adjacent habitat, a pre-activity survey shall be conducted by a qualified biologist knowledgeable in the identification of this species. The surveys shall cover the canal plus surrounding upland habitat within 50 feet of the canal. Pedestrian surveys achieving 100 percent visual coverage will be conducted. If a western pond turtle is found on-site, the qualified biologist may relocate the animal downstream more than 500 feet from the Project disturbance footprint.
- MM BIO-2:** Within 14 days of the start of Project activities in any specific area, a pre-activity survey shall be conducted by a qualified biologist knowledgeable in

the identification of these species. The surveys shall cover the Project site plus a 500-foot buffer. Pedestrian surveys achieving 100 percent visual coverage shall be conducted. Multiple surveys are anticipated to be needed, which would be phased with the construction of the Project. If no evidence of these species is detected, no further action is required.

- MM BIO-3:** If dens/burrows that could support any of these species are discovered during the pre-activity surveys conducted under BIO MM-2, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

San Joaquin Kit Fox

- Potential Den – 50 feet
- Atypical Den – 50 feet (includes pipes and other manmade structures)
- Known Den – 100 feet
- Natal/Pupping Den – 500 feet

American Badger Dens (occupied)

- Natal Den (February 1–July 1) – 250 feet
- Non-natal Den – 50 feet

Burrowing Owl (active burrows)

- April 1–October 15 – 500 feet
- October 16–March 31 – 100 feet

- MM BIO-4:** The following avoidance and minimization measures shall be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the US Fish and Wildlife Service *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011) and apply to all three species.

- Project-related vehicles shall observe a daytime speed limit of 20 mph throughout the site in all Project areas, except on county roads and state and federal highways. Nighttime construction speed limits shall be 10 mph.
- Off-road traffic outside of designated Project areas shall be prohibited.
- All Project activities shall occur during daylight hours.
- To prevent inadvertent entrapment of kit foxes or other animals during the construction of the Project, all excavated, steep-walled holes or trenches more than two-feet deep shall be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed.
- Before holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered,

the USFWS and the CDFW shall be contacted before proceeding with the work.

- In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape, or the USFWS shall be contacted for guidance.
- All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes and burrowing owls before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox or burrowing owl is discovered inside a pipe, that section of pipe shall not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity until the fox or owl has escaped.
- All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from a construction or Project site.
- No firearms shall be allowed on the Project site, except by authorized law enforcement personnel.
- No pets, such as dogs or cats, shall be permitted on the Project site.
- Use of rodenticides and herbicides in Project areas shall be restricted.
- A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or burrowing owl or who finds a dead, injured, or entrapped kit fox, or burrowing owl. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the US Fish and Wildlife Service and California Department of Fish and Wildlife.
- An employee education program shall be developed and presented to Project personnel. The program shall consist of a brief presentation by persons knowledgeable in kit fox, and burrowing owl, biology, and the legislative protections in place. The program shall include the following: a description of each species' natural history and habitat needs; a report of the occurrence of each species in the Project area; an explanation of the status of each species and its protections under federal and state laws; and a list of measures being taken to reduce impacts to each species during Project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the previously referenced people and anyone else who may enter the Project site.
- Upon completion of the Project, all areas subject to temporary ground disturbances (including storage and staging areas, temporary roads, pipeline corridors, etc.) shall be recontoured if necessary and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during

the Project, but after project completion, will not be subject to further disturbance and has the potential to be revegetated.

- Any Project personnel who are responsible for inadvertently killing or injuring one of these species should immediately report the incident to their representative. This representative shall contact the CDFW and USFWS immediately in the case of a dead, injured, or entrapped listed animal.
- The Sacramento Fish and Wildlife Office and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during Project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information.
- New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the USFWS.

MM BIO-5: If Project activities must occur during the nesting season (February 15 to August 31), pre-activity nesting bird surveys shall be conducted within seven days prior to the start of construction at the construction site plus a 250-foot buffer for songbirds and a 500-foot buffer for raptors (other than Swainson's hawk). The surveys shall be phased with the construction of the Project. If no active nests are found, no further action is required, however, nests may become active at any time throughout the summer, including when construction activities are occurring. If active nests are found during the survey or at any time during the construction of the Project, an avoidance buffer ranging from 50 feet to 350 feet may be required, as determined by a qualified biologist. The avoidance buffer will remain in place until the biologist has determined that the young are no longer reliant on the nest. Work may occur within the avoidance buffer under the approval and guidance of the biologist. The biologist shall have the ability to stop construction if nesting adults show sign of distress.

MM BIO-6: If Project activities must occur during the nesting season (February 15 to August 31), pre-activity surveys shall be conducted for Swainson's hawk nests in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley, Swainson's Hawk Technical Advisory Committee (CDFW 2000). The surveys would be conducted on the Project site plus a half-mile buffer. To meet the minimum level of protection for the species, surveys shall be conducted during at least two survey periods. The survey will be conducted in accordance with the methodology outlined in existing protocols and shall be phased with the construction of the Project.

If no Swainson's hawk nests are found, no further action is required.

MM BIO-7: If an active Swainson's hawk nest is discovered at any time within one-half mile of active construction, a qualified biologist will complete an assessment of the potential for current construction activities to impact the nest. The assessment will consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to the construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed and the level of nest monitoring required. Minimally, construction activities should not occur within 100 feet of an active nest and may require monitoring if within 500 feet of an active nest. The qualified biologist should have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nest location, the sensitivity of the nesting Swainson's hawk to disturbances, and the discretion of the qualified biologist.

MM BIO-8: Prior to start of construction activities, a qualified biologist shall conduct a preconstruction survey with special attention to trees and manmade structures, including a daytime inspection and a flyout inspection at dusk. The survey shall be conducted within 14 days prior to the construction activities. If no bats are detected, no further action is required.

If bats are detected, acoustical sampling shall be conducted to identify the species present. If pallid bats, western mastiff bats, or hoary bats are identified to be roosting in the trees or structures, work shall not commence until all of the following have been implemented:

- Bats have been passively excluded from the tree or structure by progressively boarding up any entrances at night while bats are foraging away from the tree or structure. Relocation of bats may not be performed during the breeding season (March 1 to September 15).
- Permanent, elevated bat houses have been installed outside of, but near the construction area, preferably in designated open space areas. Placement and height shall be determined by a qualified biologist, but the height of a bat house shall be at least 15 feet. Bat houses shall be multi-chambered. The number of bat houses required shall be dependent upon the size and number of colonies present, but at least one bat house shall be installed for each pair of bats (if occurring individually) or each colony of bats found.
- If a tree or structure containing a roost for pallid, western mastiff, or hoary bats shall be removed or may lead to roost abandonment during construction, a qualified biologist shall design and determine an appropriate location for an alternate roost structure.

BIO-9 Prior to issuance of any grading or building permit, the applicant or developer shall submit a final Delineation report and evidence of the pertinent permits to the City of Livingston. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:

1. Delineation of all jurisdictional features at the project site. Potential jurisdictional features within the project boundary identified in the jurisdictional delineation report may be shown in plan form.
2. If the Project has a potential to directly or indirectly impact jurisdictional aquatic resources, a formal aquatic resource delineation of these areas shall be performed by a qualified professional to determine the extent of agency jurisdiction and permits/authorizations from the appropriate regulating agencies (Central Valley Regional Water Quality Control Board (RWQCB), CDFW and US Army Corps of Engineers (USACE) shall be obtained prior to disturbance to jurisdictional features.

If it is determined that canal is jurisdictional and cannot be avoided, the Project proponent shall obtain a Section 401 Waters Quality Certification from the RWQCB, a Section 404 permit from USACE and a Lake and Streambed Alteration Agreement from the CDFW, if required prior to impacting any waters.

As part of these authorizations, compensatory mitigation may be required by the regulating agencies to offset the loss of aquatic resources. If so, and as part of the permit application process, a qualified professional shall draft a Monitoring Plan to address implementation and monitoring requirements under the permit to ensure that the Project would result in no net loss of habitat functions and values. The Plan shall contain, at a minimum, mitigation goals and objectives, mitigation location, a discussion of actions to be implemented to mitigate the impact, monitoring methods and performance criteria, extent of monitoring to be conducted, actions to be taken in the event that the mitigation is not successful, and reporting requirements. The Plan shall be approved by the appropriate regulating agencies and compensatory mitigation shall take place either on site or at an appropriate off-site location.

3. Any material/spoils generated from project activities containing hazardous materials shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. Protection measures should follow project-specific criteria as developed in a Stormwater Pollution Prevention and Protection Plan (SWPPP).

4. Equipment containing hazardous liquid materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and at least 50 feet outside the delineated boundary of jurisdictional water features.

Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative shall be notified

MM CUL-1: Although there is no recorded evidence of historic or archaeological sites within the Project area, there is the potential during Project-related excavation and construction for the discovery of these types of resources. The Applicant shall incorporate into the construction contract(s) for the Project a provision that if a potentially significant historical or archaeological resource is encountered during subsurface construction activities (i.e., trenching, grading), all construction activities within a 50-foot radius of the identified potential resource shall cease until a qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation (DPR) forms. The archaeologist shall determine whether the item requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under CEQA, the archaeologist shall recommend a feasible protocol, which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code Section 21083.2.

MM CUL-2: If ground-disturbing activities uncover previously unknown human remains, Section 7050.5 of the California Health and Safety Code applies, and the following procedures shall be followed:

There shall be no further excavation or disturbance of the area where the human remains were found until the County Coroner/Sheriff's Office is contacted. Duly authorized representatives of the Coroner shall be permitted onto the Project site and shall take all actions consistent with Health and Safety Code Section 7050.5 and Government Code Section 27460, et seq. Excavation or disturbance of the area where the human remains were found, or within 50 feet of the find, shall not be permitted to recommence until the Coroner determines that the remains are not subject to the provisions of law concerning investigation of the circumstances, manner, and cause of any death. If the Coroner determines the remains are Native American, the Coroner shall contact the NAHC within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.

- MM GEO-1:** Prior to Project implementation, the Applicant shall submit an approved copy of (1) the approved Storm Water Pollution Prevention Plan (SWPPP), and (2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and the NPDES shall be incorporated into the design specifications and construction contracts.
- MM GEO-2:** The applicant or developer will incorporate into the construction contract(s) a provision that in the event a fossil or fossil formations are discovered during any subsurface construction activities for the proposed Project (i.e., trenching, grading), all excavations within 50 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the Applicant, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the Applicant shall implement those measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code Section 21083.2.
- MM TRA-1:** The applicant or developer shall be responsible for the following improvements:

Intersections:

Main Street at Campbell Boulevard

- Near-Term Plus Project scenario:
 - Install traffic signal
- Cumulative Year 2042 Plus Project scenario:
 - Install traffic signal
 - Widen the westbound approach to one left turn lane, one through lane, and one right turn lane (adding one right turn lane)

Winton Parkway at SR 99 NB Ramps

- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the southbound approach to one through lane and one right turn lane (adding one right turn lane)

Winton Parkway at SR 99 SB Ramps

- Existing Plus Project and Near-Term Plus Project scenario:
 - Install Traffic Signal
 - Widen the northbound approach to one through lane and one right turn lane (adding one right turn lane)

- Widen the eastbound approach to one left turn lane and one right turn lane (adding one left turn lane)
- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the northbound approach to one through lane and one right turn lane (adding one right turn lane)
 - Widen the eastbound approach to one left turn lane and two right turn lanes (adding one left turn lane and one right turn lane)

Hammatt Avenue at SR 99 NB Ramps

- Existing Plus Project scenario:
 - Install Traffic Signal
- Near-Term Plus Project scenario:
 - Install Traffic Signal
 - Widen the westbound approach to one left-through lane and two right-turn lanes (adding one right turn lane)
- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the southbound approach to one through lane and one right turn lane (adding one right turn lane)
 - Widen the westbound approach to one left-through lane and two right turn lanes (adding one right lane)

Hammatt Avenue at SR 99 SB Ramps

- Near-Term Plus Project scenario:
 - Install Traffic Signal
- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the northbound approach to one through lane and one right lane (adding one right turn lane)

MM TRA-2: The applicant or developer shall be required to contribute a fair share towards the costs of improvements that are identified for the Cumulative Year 2042 scenarios. The intent of determining the equitable responsibility for the improvements identified above for the Cumulative Year 2042 scenarios, is to provide a starting point for early discussions to address traffic mitigation equitability and to calculate the equitable share for mitigating traffic impacts.

The formula used to calculate the equitable share responsibility to the study area is as follows:

Equitable Share = (Project Trips)/(Future Year Plus Approved Project Traffic – Existing Traffic)

Equitable Share Responsibility

INTERSECTION	PEAK HOUR	EXISTING	PROJECT TRIPS	CUMULATIVE YEAR 2042 PLUS PROJECT	FAIR SHARE PERCENTAGE
Main Street / Campbell Boulevard	AM	1,189	22	1,701	4.3%
	PM	946	28	1,396	6.2%
Winton Parkway / SR 99 NB Ramps	AM	1,284	4	1,727	0.9%
	PM	1,243	6	1,675	1.4%
Winton Parkway / SR 99 SB Ramps	AM	1,711	3	2,301	0.5%
	PM	1,727	2	2,323	0.3%
Hammatt Avenue / SR 99 NB Ramps	AM	1,322	6	2,208	0.7%
	PM	1,262	7	2,131	0.8%
Hammatt Avenue / SR 99 SB Ramps	AM	1,160	1	1,873	0.1%
	PM	1,236	5	2,010	0.6%

MM UTL-1: During construction of future commercial cannabis facilities, the Project Applicant shall not store construction waste on-site for longer than the duration of the construction activity or transport any waste to any unpermitted facilities. The Project Applicant shall also reduce construction waste transported to landfills by ensuring construction and demolition waste is hauled to one of the six City-approved construction and demolition disposal facilities.

MM UTL-2: In order to reduce the amount of waste generated from cannabis-related operations being taken to the landfill, the following shall be incorporated into the CUP conditions of approval for each Project:

Businesses generating four cubic yards or more of commercial solid waste per week are required to recycle and take one, or any combination, of the following actions:

- Subscribe to source-separated recycling service with a regional franchise hauler authorized to provide service for the area in which the business is located.
- Subscribe to a mixed solid waste recycling service with a regional franchise hauler authorized to provide service for the areas in which the business is located.
- Self-recycle and certify compliance.
- Undertake a combination of such measures, or such alternate measures, as may be approved by the City to reduce the amount of waste from the commercial sector being taken to a landfill.

MM UTL-3: Prior to issuance of grading or building permits, the Project Applicant shall construct, adequate, segregated, on-site screened storage for collection of commercial solid waste and source separated recyclable materials if

constructing new facilities or if existing facilities do not provide such areas. The area shall be designed to be architecturally compatible with the development and shall not prevent security of the recyclables. Driveways and/or travel aisles shall provide, at a minimum, unobstructed access for collection vehicles and personnel. A sign clearly identifying all recycling/solid waste collection and loading areas and the materials accepted shall be posted adjacent to all points of direct access to the area.

SECTION 1 - INTRODUCTION

1.1 - Overview

The Applicant is seeking to subdivide an 18.8-acre parcel into 22 lots with one drainage basin (Lot A) for the creation of a secured, gated Cannabis Business Park in the City of Livingston. Aside from the drainage basin and one lot, all other lots are less than one acre in size.

Although there will not be any development of buildings for future occupants, the Project would result in the creation of a secured, gated area for businesses, internal privately owned roads, and an extension of City waterlines to the Project site for the businesses that will occupy the area.

The Applicant has cleared the Project through the first of two phases of the City cannabis permitting process. The first phase is predominantly administrative and includes validating the zoning, applying for permits, paying fees, and passing extensive background checks, with the exception of the operator background check. The clearance of the first phase is applied to all future businesses that seek to be a part of the business park. The second phase is more detailed and specific to the individual businesses seeking approval and requires the creation of waste disposal (including hazardous waste), a security plan, and odor control solutions. It is the responsibility of aspiring occupants to complete the operator background check during the second phase of the City's cannabis permitting process.

The Tentative Map will be recorded under a single Final Map.

1.2 - California Environmental Quality Act

The City of Livingston is the Lead Agency for this Project pursuant to the California Environmental Quality Act (CEQA) Guidelines (Public Resources Code Section 15000 et seq.). The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) (see *Section 3 – Initial Study*) provides analysis that examines the potential environmental effects of the construction and operation of the Project. Section 15063 of the CEQA Guidelines requires the Lead Agency to prepare an IS to determine whether a discretionary project will have a significant effect on the environment. A Mitigated Negative Declaration (MND) is appropriate when an IS has been prepared and a determination can be made that no significant environmental effects will occur because revisions to the Project have been made or mitigation measures will be implemented that reduce all potentially significant impacts to less-than-significant levels. The content of an MND is the same as a Negative Declaration, with the addition of identified mitigation measures and a Mitigation Monitoring and Reporting Program (MMRP) (see *Appendix A – Mitigation Monitoring and Reporting Program*).

Based on the IS, the Lead Agency has determined that the environmental review for the proposed application can be completed with an MND.

1.3 - Impact Terminology

The following terminology is used to describe the level of significance of impacts.

- A finding of “no impact” is appropriate if the analysis concludes that the Project would not affect a topic area in any way.
- An impact is considered “less than significant” if the analysis concludes that it would cause no substantial adverse change to the environment and requires no mitigation.
- An impact is considered “less than significant with mitigation incorporated” if the analysis concludes that it would cause no substantial adverse change to the environment with the inclusion of environmental commitments that have been agreed to by the Applicant.
- An impact is considered “potentially significant” if the analysis concludes that it could have a substantial adverse effect on the environment.

1.4 - Document Organization and Contents

The content and format of this IS/MND is designed to meet the requirements of CEQA. The report contains the following sections:

- *Section 1 – Introduction:* This section provides an overview of CEQA requirements, intended uses of the IS/MND, document organization, and a list of regulations that have been incorporated by reference.
- *Section 2– Project Description:* This section describes the Project and provides data on the site’s location.
- *Section 3 – Environmental Checklist:* This section contains the evaluation of 18 different environmental resource factors contained in Appendix G of the CEQA Guidelines. Each environmental resource factor is analyzed to determine whether the proposed Project would have an impact. One of four findings is made which include no impact, less-than-significant impact, less than significant with mitigation, or significant and unavoidable. If the evaluation results in a finding of significant and unavoidable for any of the 18 environmental resource factors, then an Environmental Impact Report will be required.
- *Section 4 – List of Preparers:* This section identifies the individuals who prepared the IS/MND.
- *Section 5 – Bibliography:* This section contains a full list of references that were used in the preparation of this IS/MND.
- *Appendix A – Mitigation Monitoring and Reporting Program:* This appendix contains the Mitigation Monitoring and Reporting Program.

1.5 - Incorporated by Reference

The following documents and/or regulations are incorporated into this IS/MND by reference:

- City of Livingston General Plan (December 1999)
- Zoning Ordinance Section 5-3-15: Land Use Regulations and Section 5-5-14: Commercial Cannabis Activity
- See *Section 5 – Bibliography* for a full list of references

SECTION 2 - PROJECT DESCRIPTION

2.1 - Introduction

The applicant is proposing to subdivide an 18.8-acre parcel into 22 lots ranging from approximately 0.66 acres to 1.46 acres in size, and dedicated stormwater detention basin (Lot A). The Project would ultimately result in a secured, gated Cannabis Business Park with a future 25-foot-wide internal road being privately owned and maintained. The Applicant is applying for a Master Conditional Use Permit, as well as seeking approval of a General Plan Map Amendment re-designating the project site from Industrial Reserve to Limited Industrial.

2.2 - Project Location

The Project site is located approximately 0.4 miles west of Main Street, just north of Bird Street as it turns north to the Wastewater Treatment Plant in the northern-most part of the City of Livingston, California, which is one of six incorporated cities in Merced County (Figures 2-1 and 2-2). State Route (SR) 99 is approximately one mile west of the site. The Project parcel is identified by the assessor's parcel number (APN) 047-090-004. The site is predominately surrounded by agricultural land. Presently, the site predominantly consists of fallow agricultural land. A canal trends southwest-northeast through the site with an electrical power line along the northern boundary.

The Livingston City Limits extend to the eastern boundary of the Bird Street right-of-way that fronts the project site. The properties and the rest of Bird Street east of the project site are located in the unincorporated area of Merced County.

The Project site has a General Plan designation of Industrial Reserve (IR) (Figure 2-3) and is zoned Limited Industrial (M-1) (Figure 2-4).

2.3 - Surrounding Land Uses

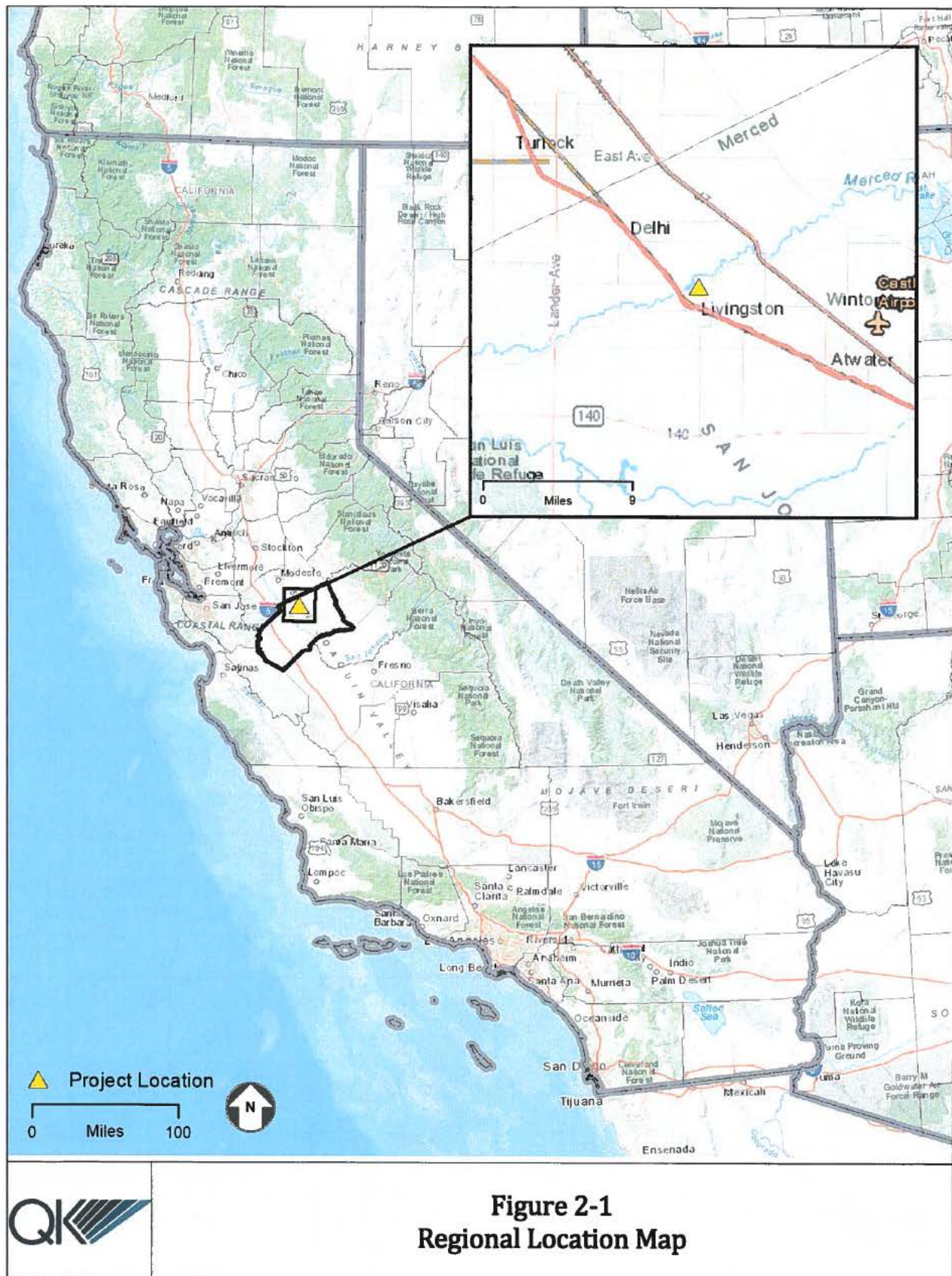
North and west of the Project site is zoned for Public/Quasi-Public Facility and Limited Industrial while south of the Project site is zoned as General Industrial. The east side of the Project site is on the border of the city limits and the sphere of influence.

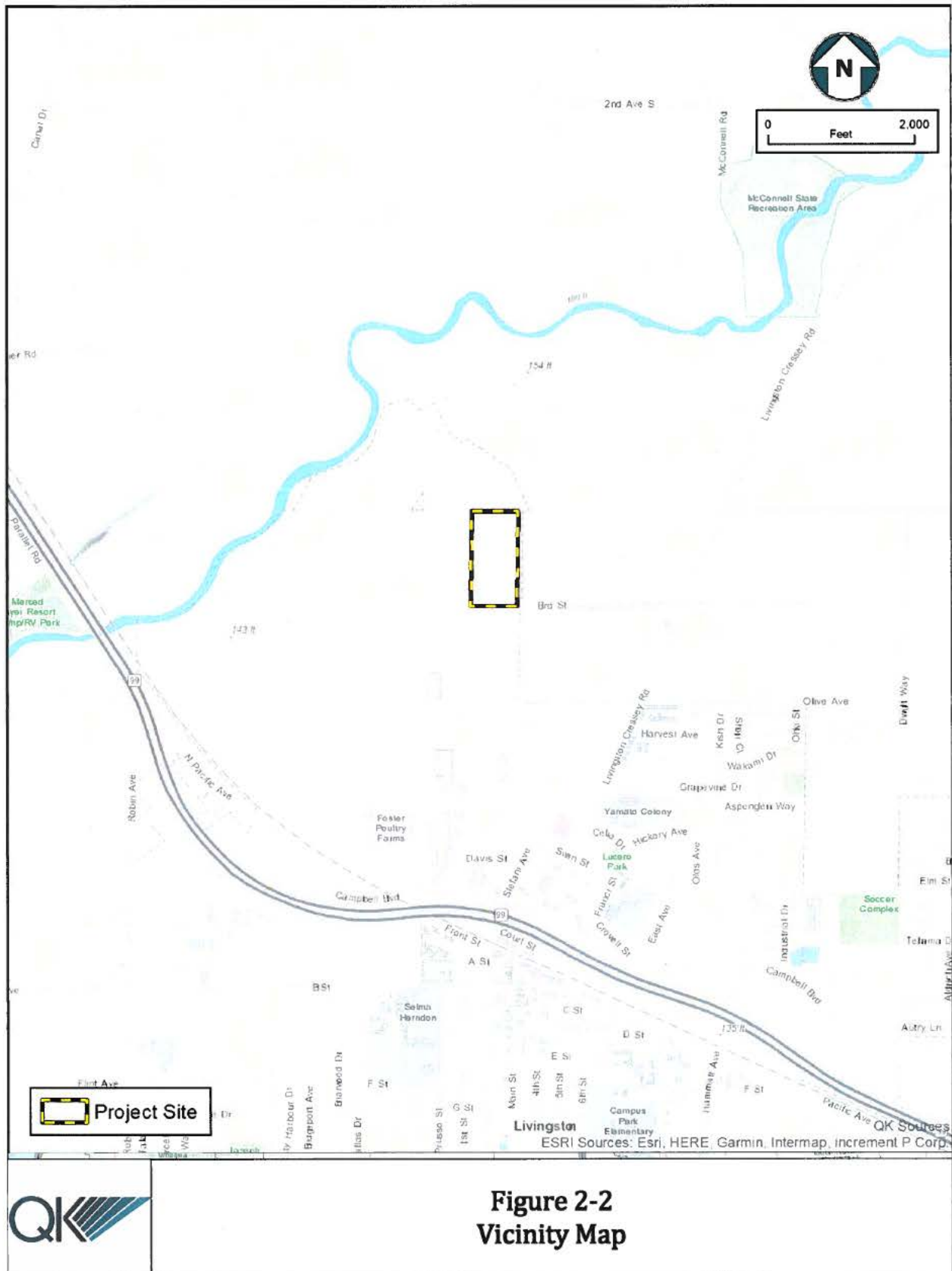
The surrounding lands predominantly consist of agricultural production to the east, south, and west, and a drainage basin to the north.

2.4 - Proposed Project

The Applicant is proposing to subdivide an 18.8-acre parcel into 22 lots ranging from approximately 0.66 acres to 1.46 acres in size (Figure 2-5), and a dedicated stormwater detention basin (Lot A). The project site will be developed in four phases. The Project would ultimately result in a secured, gated Cannabis Business Park with a future 25-foot-wide internal road being privately owned and maintained. The site is bisected by the MID

Stoddard Lateral that runs diagonally through the site and will be piped and undergrounded. The Applicant is also proposing a General Plan Map Amendment to redesignate the Project site from Industrial Reserve to Limited Industrial.





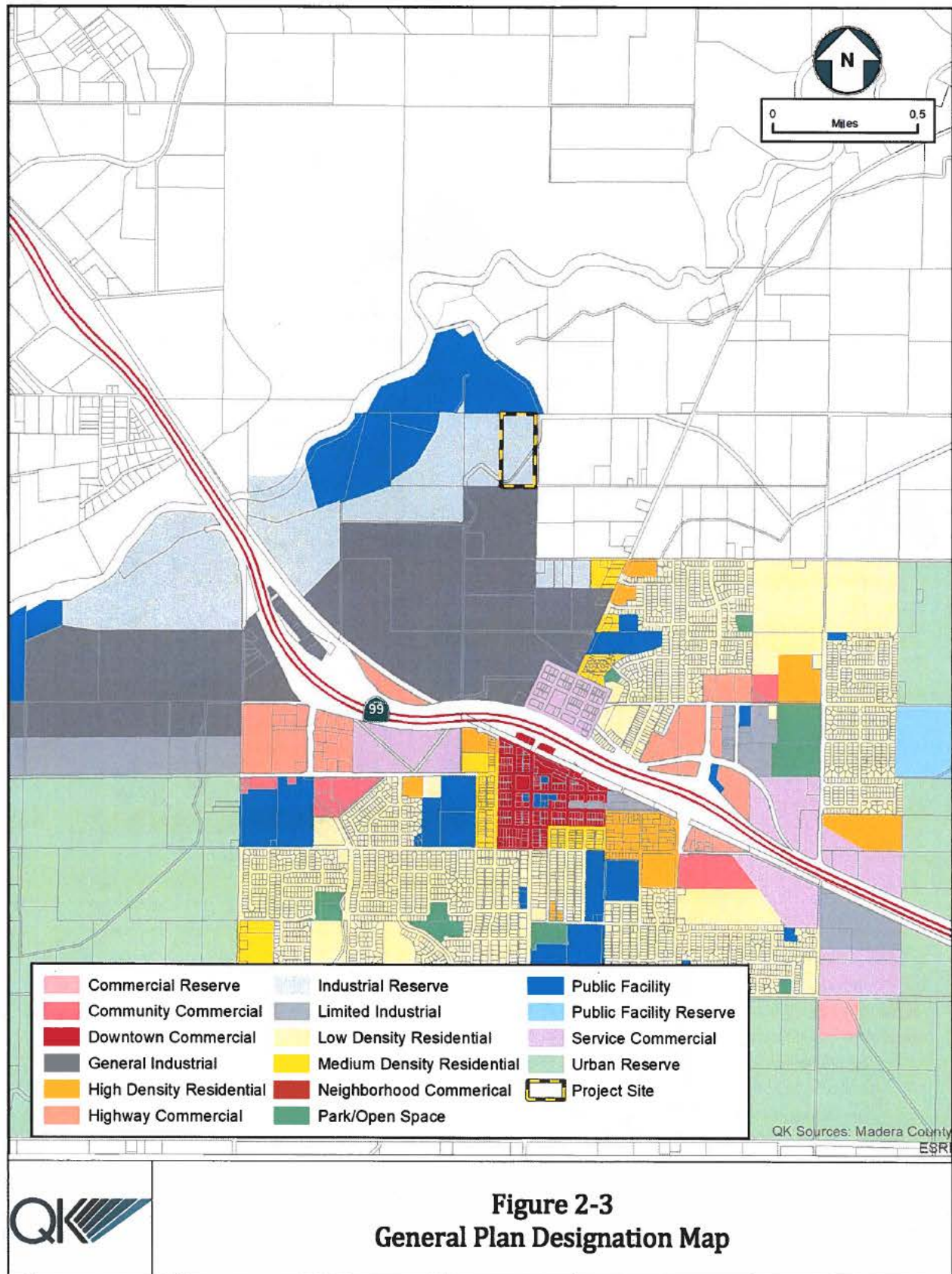
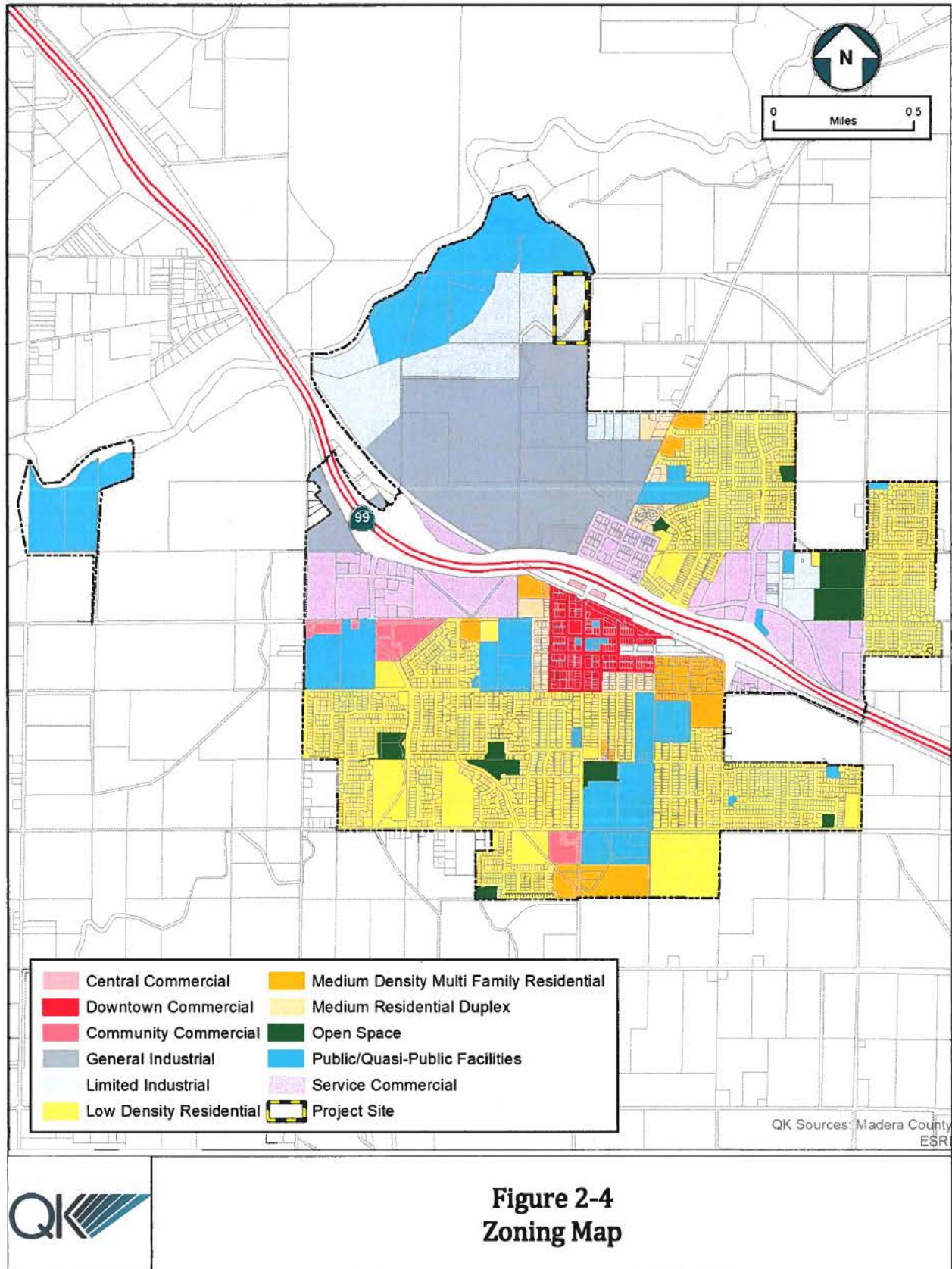


Figure 2-3
General Plan Designation Map



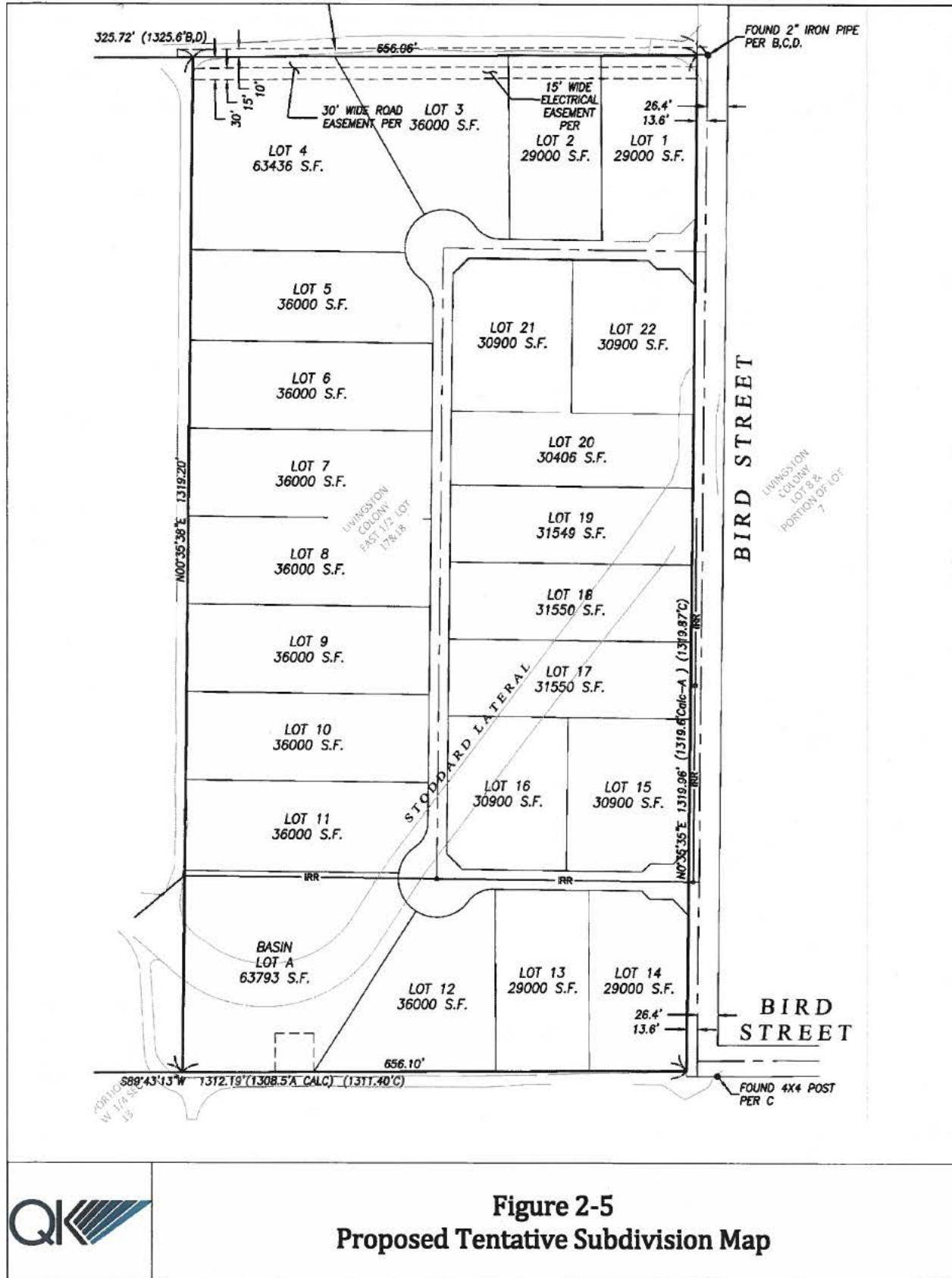


Figure 2-5
Proposed Tentative Subdivision Map

The Tentative Subdivision Map (TSM) would ultimately consist of the buildout of a Cannabis Business Park. Specific future uses on the property have not been determined at this time, but according to Section 5-3-15, Land Use Regulations (Zoning Matrix) from the City's Municipal Code, the following cannabis-related uses could be included within the proposed Cannabis Business Park with approval of a Conditional Use Permit:

- Commercial cannabis cultivation – indoor
- Commercial cannabis cultivation – mixed light (enclosed)
- Commercial cannabis distribution
- Commercial cannabis manufacturing (volatile/nonvolatile)
- Commercial cannabis – microbusiness (no retail; no outdoor cultivation)
- Commercial cannabis nursery – indoor or mixed light/greenhouse
- Commercial cannabis testing

Although the ultimate intent for the TSM is to construct a Cannabis Business Park, if cannabis-related uses are not forthcoming, then the 22 lots may result in the construction of other non-cannabis industrial uses as permitted in the Zoning Ordinance. Therefore, according to Municipal Code Title 5, Chapter 2, if cannabis-related uses are not established, the following uses could be either a permitted use or a conditionally permitted use within the M-1 zone:

- Auto body repair
- Auto storage
- Auto wrecking
- Body art establishment
- Finished goods assembly
- Heavy terminal
- Kennel
- Manufacturing, beverage/bottling plant.
- Manufacturing, heavy general
- Manufacturing, light general
- Recycling facility
- Salvage yards
- Smoke shop and/or smoking lounge

The ultimate buildout of the 22 lots and basin lot (Lot A), whether it includes cannabis-related uses or not, would need to be consistent with City's General Plan, Zoning Ordinance, and would need to meet the intent of the M-1 zone district.

The Project Applicant has filed a Master Conditional Use Permit (MCUP) requesting authorization to allow the above uses, as well as any future cannabis-related permitted use or conditionally permitted use, on the subject site. Although retail cannabis uses are not permitted anywhere within City limits at this time, the Applicant is requesting all future permitted cannabis-related uses, including retail, be considered under this MCUP. With approval of this MCUP, when a specific development submits an application to the City

proposing the development of the subject site, only an administrative site plan review will be required (not a separate conditional use permit). Individual businesses will be required to obtain a Commercial Cannabis Permit in accordance with the Livingston Municipal Code. During this administrative site plan review, staff will verify compliance with all "Development And Operational Standards And Security Requirements" as outlined in Section 5-5-14-I of the Livingston Municipal Code in order to verify compliance with cannabis-specific design and security requirements.

Other non-cannabis-related uses permitted in the M-1 zone district, but not specifically analyzed in this document or the related traffic study, may require additional CEQA analysis and the time of project entitlement.

Site plan and design review are required for all uses involving new construction, significant exterior alterations to existing structures, or significant site plan alterations in the M-1 zone. As part of the Master Conditional Use Permit, the applicant has submitted a conceptual site plan depicting the typical buildout of the proposed lots. The Applicant is seeking the City Council's approval of the sample site plan, and to obtain the Council's authorization for staff-level approval of future site plans deemed sufficiently consistent with the sample going forward.

As noted above, some uses, not specifically listed above, will require conditional use permits or other discretionary review, subject to the determination of compliance with the development, parking, landscaping, and other standards of the Zoning Ordinance. All future cannabis-related uses will be subject to the City's two-step cannabis permitting process. Due to the size, complexity, unusual features, or other concerns, any project subject to administrative or conditional approval, may be further reviewed under CEQA at the discretion of the Planning Director.

Below is a demonstration of compliance with the requirements for a Conditional Use Permit as outlined in the City of Livingston Municipal Code Section 5-6-8:

- i. Conditional use permits require a determination of findings and conditions by the planning commission.*
- ii. Application for conditional use permits shall be made to the planning department in writing on a form prescribed by the city and shall be accompanied by an established fee or deposit and copies of plans and elevations showing in detail the proposed use or building.*

Since the Project includes four phases, the MCUP will include the proposed uses that could be on each site, and a conceptual site plan will be prepared to detail the general locations of proposed buildings. A separate site plan review application will be submitted separately for each phase as the Project progresses. Project development will incorporate any conditions of approval as listed during the MCUP review and future site plan reviews required for future development. As mentioned above, the goal in preparing this MCUP is to allow the cannabis uses to be approved in advance, so that individual users/developments only need to go

through a site plan review process. As required, each individual user will have to obtain a Commercial Cannabis Permit, cannabis Business License, and State License as required by the Municipal Code Section 5-5-14.

- iii. A conditional use permit shall not be granted for the use unreasonably incompatible with permitted uses in the area considering damage and nuisance from light sources, noise, smoke, odor, dust or vibration, hazard resulting from unusual volume or character of traffic, or congestion of a large number of persons or vehicles.*

The Project prepared an Initial Study and Mitigated Negative Declaration (IS/MND) for the Project's Tentative Subdivision Map. The IS/MND assesses a less than significant impact for light or glare, noise, air quality, hazards, and transportation due to the implementation of the Project.

Proposed Phasing Plan

As mentioned above, the Applicant is proposing a 22-lot Cannabis Business Park to be located on an 18.8-acre parcel in the city of Livingston. The 22 lots, ranging from approximately 0.66 acres to 1.46 acres in size. Project components also include a private road, piping, realignment, and undergrounding of the MID Stoddard Lateral, extension of water lines, and well construction.

The following processes are required at different stages of the Project implementation:

Permit Process

- Cannabis Master Conditional Use Permit (MCUP)
- Site Plan Review (SPR)

Prior to Construction

- Dust Control Plan
- Screened Storage for solid waste and recyclables
- SWPPP and NOI
- Pre-Activity Surveys for Special-Status Species (Various)

Traffic Improvements

- Main Street at Campbell Boulevard: traffic signal and road widening
- Winton Parkway at SR 99 NB: traffic signal and road widening
- Winton Parkway at SR 99 SB: traffic signal and road widening
- Hammat Avenue at SR 99 NB: traffic signal and road widening
- Hammat Avenue at SR 99 SB: traffic signal and road widening

Prior to Occupancy

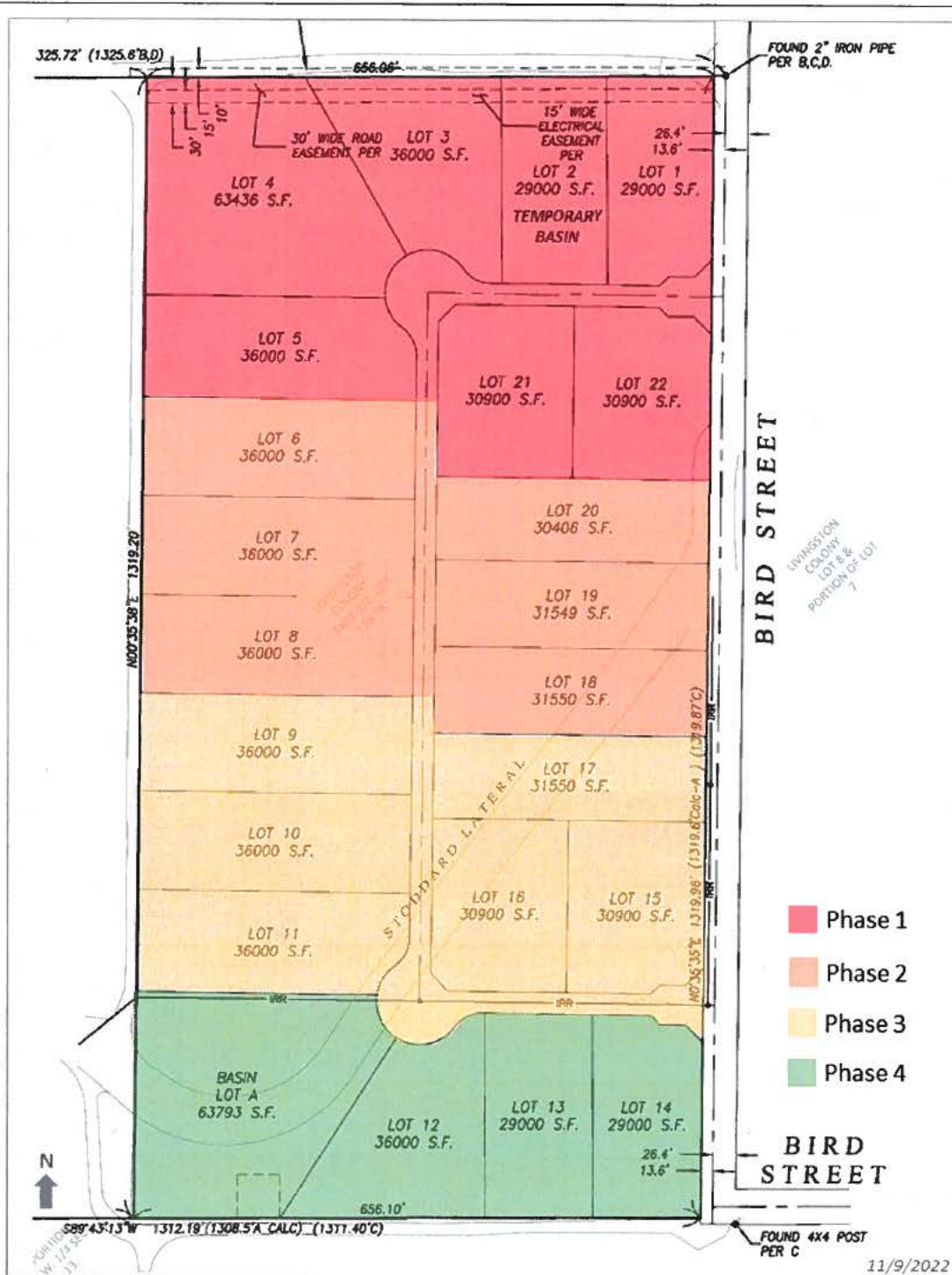
- Fair Share Payment

Proposed Phasing

Based on our Project understanding, the project Applicant is proposing the following phased approach, also depicted in Figure 2-6:

Phase	Description
Phase 1	<ul style="list-style-type: none"> • Submit Cannabis MCUP for the 22-lot Cannabis Business Park • Submit SPR for seven (7) cultivation facilities. Each lot would be secured individually in Phase 1. • Prior to Building Permits: <ul style="list-style-type: none"> ○ Dust Control Plan ○ Screened Storage for solid waste and recyclables ○ SWPPP and NOI (if greater than one (1) acre) ○ Pre-Activity Biological Surveys • Depending on operations, provide on-site drainage facilities. • Extension of water lines (unless there is an alternative for water use; and if so, move to Phase 2) • Construct 25 ft. private road (portion) • Prior to Certificate of Occupancy: <ul style="list-style-type: none"> ○ Fair Share Payment
Phase 2	<ul style="list-style-type: none"> • Submit SPR for six (6) facilities • Prior to Building Permits: <ul style="list-style-type: none"> ○ Dust Control Plan ○ Screened Storage for solid waste and recyclables ○ SWPPP and NOI • Depending on operations, provide on-site drainage facilities. • Extension of water lines (if applicable) • Construct 25 ft. private road (portion) • Traffic Improvements: <ul style="list-style-type: none"> ○ Main Street at Campbell Boulevard: traffic signal and road widening • Prior to Certificate of Occupancy: <ul style="list-style-type: none"> ○ Fair Share Payment • Pipe and underground MID Stoddard lateral
Phase 3	<ul style="list-style-type: none"> • Submit Cannabis SPR for six (6) facilities • Prior to Building Permits: <ul style="list-style-type: none"> ○ Dust Control Plan ○ Screened Storage for solid waste and recyclables ○ SWPPP and NOI • Depending on operations, provide on-site drainage facilities • Construct 25 ft. private road (portion) • Traffic Improvements:

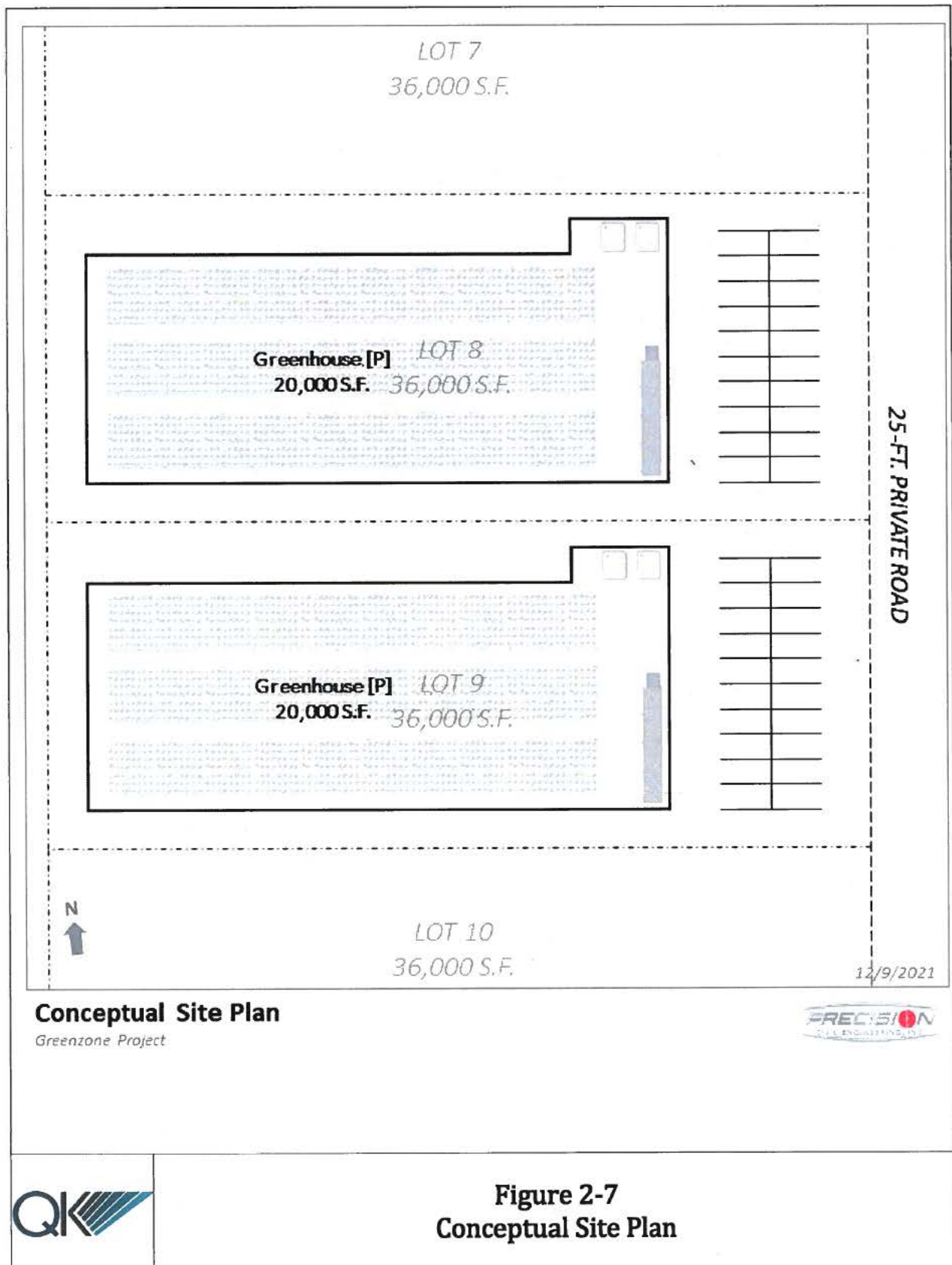
	<ul style="list-style-type: none">○ Winton Parkway at SR 99 NB: traffic signal and road widening○ Winton Parkway at SR 99 SB: traffic signal and road widening• Prior to Certificate of Occupancy:<ul style="list-style-type: none">○ Fair Share Payment
Phase 4	<ul style="list-style-type: none">• Submit SPR for three (3) facilities and Lot A Basin• Prior to Building Permits:<ul style="list-style-type: none">○ Dust Control Plan○ Screened Storage for solid waste and recyclables○ SWPPP and NOI• Construct well.• Traffic Improvements:<ul style="list-style-type: none">○ Hammat Avenue at SR 99 NB: traffic signal and road widening○ Hammat Avenue at SR 99 SB: traffic signal and road widening• Prior to Certificate of Occupancy:<ul style="list-style-type: none">○ Fair Share Payment○ Construct Perimeter Wall



Proposed Phasing Plan
Greenzone Project



Figure 2-6
Proposed Phasing Plan



SECTION 3 - INITIAL STUDY

3.1 - Environmental Checklist

1. Project Title:

Greenzone, – Cannabis Business Park, LLC

2. Lead Agency Name and Address:

City of Livingston
1416 C Street
Livingston, CA 95334

3. Contact Person and Phone Number:

Livingston Contract Planner – (209) 394-8041

4. Project Location:

The Project site is located approximately 0.4 miles west of Main Street, just north of Bird Street as it turns north to the Wastewater Treatment Plant in the northern-most part of the City of Livingston, California, which is one of six incorporated cities in Merced County (Figures 2-1 and 2-2). State Route (SR) 99 is approximately one mile west of the site. The Project parcel is identified by the assessor's parcel number (APN) 047-090-004. Presently, the site predominantly consists of fallow agricultural land. A canal trends southwest-northeast through the site.

5. Project Sponsor's Name and Address:

Greenzone, LLC
1382 Christopher Drive
Merced, CA 95340

6. General Plan Designation:

Industrial Reserve (IR)

7. Zoning:

Limited Industrial (M-1)

8. Description of Project:

The Applicant is proposing to subdivide an 18.8-acre parcel into 22 lots ranging from approximately 0.66-acres to 1.46 acres in size, and dedicated stormwater detention basin (Lot A). The Applicant is also proposing a General Plan Map Amendment to re-designate

the project site from Industrial Reserve to Limited Industrial. The Project would ultimately result in a secured, gated Cannabis Business Park with a future 25-foot-wide internal road being privately owned and maintained. The site is bisected by the MID Stoddard Lateral which runs diagonally through the site and will be piped and undergrounded. The ultimate buildout of the 22 lots and basin lot, whether it includes cannabis-related uses or not, would need to be consistent with City's General Plan, Zoning Ordinance, and would need to meet the intent of the M-1 zone district.

See *Section 2 – Project Description* for a complete description of the Project.

9. Surrounding Land Uses and Setting:

The site currently consists of agricultural production and vacant fallow land. The site is bisected by a canal that runs diagonally through the site. Surrounding land uses includes a drainage basin to the north, row crops to the east, and vacant fallow land to the south and west. Bird Street, a 40 foot-wide right-of-way, is partially developed and fronts along the project site.

10. Other Public Agencies Whose Approval may be Required:

- California Department of Fish and Wildlife (CDFW)
- California Bureau of Cannabis Control (CalCannabis)
- California Department of Food and Agriculture (CDFA)
- San Joaquin Valley Air Pollution Control District (SJVAPCD)
- California Department of Public Health (CDPH)
- Central Valley Regional Water Quality Control Board (RWQCB)
- California Department of Transportation (Caltrans)
- California Department of Equalization
- California Department of Justice
- California Franchise Tax Board
- California Environmental Protection Agency
- Army Corps of Engineers
- US Fish and Wildlife Service

11. Have California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Pursuant to AB 52 requirements, no local tribes had requested to be consulted for input on future City projects.

Per SB 18 requirements, the City of Livingston consulted with the NAHC to obtain a list of tribes culturally-affiliated with the Project area. The NAHC responded back on January 20, 2022 with a list of 6 tribes with affiliation to the Project area. The City sent

consultation request letters to the Dumna Wo-Wah tribe on December 20, 2021, and to the remainder of the tribes on January 21, 2022 (Appendix F). During the mandated 90-day timeframe, no tribes responded back requesting additional consultation on this Project.

3.2 - Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology and Soils | <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |

3.3 - Determination

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one

effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENT IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Printed Name

Title

3.4 - Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a. Earlier Analysis Used. Identify and state where they are available for review.
 - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a

previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats, however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a. The significance criteria or threshold, if any, used to evaluate each question; and
 - b. The mitigation measure identified, if any, to reduce the impact to less than significant.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--	--------------------------------------	--	-------------------------------------	--------------

3.4.1 - AESTHETICS

Except as provided in Public Resources Code Section 21099, would the Project:

a.	Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact #3.4.1a – Except as provided in Public Resources Code Section 21099, would the Project have a substantial adverse effect on a scenic vista?

The Project site and its surrounding vicinity has been highly modified for agricultural production. Additionally, the site itself is traversed by a manmade canal. Construction and ongoing operations occurring on the proposed Project site would be visible from surrounding properties and roadways, however, the surrounding sites consist of agricultural production to the east, south, and west, and a drainage basin to the north. The project site contains an electrical power line that borders just inside the northern property line.

There are no unique visual features or scenic vistas in the Project area. No roadways in the Project vicinity are designated as scenic under existing visual protection programs. No scenic vistas exist on the Project site or within the Project vicinity.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*

Impact #3.4.1b – Except as provided in Public Resources Code Section 21099, would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

California's Scenic Highway Program was created by the legislature in 1963. Its purpose is to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. According to Caltrans' California Scenic Highway Program and the National Scenic Byways Program, the proposed Project site is not in the vicinity of a State or local scenic highway and is not considered "eligible" or "officially designated" as a scenic highway. Additionally, the proposed Project site is not located adjacent to, nor is it visible from, a designated local scenic highway/roadway/trail.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*

Impact #3.4.1c – Except as provided in Public Resources Code Section 21099, would the Project in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?

Future uses on the property have not been determined at this time, but would only include what is currently allowed in the City of Livingston Municipal Code. The initial intent is to develop the site for a future Cannabis Business Park which could include cannabis-related uses permitted under Municipal Code Section 5-3-15. If the buildout of this is never realized, the site would be allowed to develop to include the additional permitted uses allowed for this zone per Municipal Code Title 5, Chapter 2. The proposed Project at full buildout will potentially change the present character of the Project site's existing setting from agriculture to more of an industrial-type setting, however, any future use would be consistent with the City's zoning and General Plan. The City's Zoning Ordinance dictates height, setback, and development standards (e.g., landscaping) to minimize impacts to aesthetics. Future development associated with the proposed entitlements will be in conformance with the types of uses that are permitted on the Project site and will not substantially alter the visual character of the surrounding area.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.1d – Except as provided in Public Resources Code Section 21099, would the Project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Any new development has the potential to introduce new sources of light with the addition of interior and exterior lighting. Future development of the proposed Project site may include exterior lighting sources along with new street lighting. The effect of new lighting could result in a loss of darkness in the night sky that may be noticeable to residents in the surrounding area; some sky glow and light 'spillage' could occur with this new development.

Exterior lighting will be designed and maintained in a manner so that glare and reflections are contained within the boundaries of the parcel, and will be hooded and directed downward and away from adjoining properties and public rights-of-way. All future proposed development for the site will need to submit a lighting plan in accordance with the City's Municipal Code 5-6-7(C)3. All lighting fixtures will be appropriate to the use they are serving in scale, intensity, and height pursuant to the provisions of the M-1 zone district. With conformance to the requirements of the City's Zoning Ordinance, the addition of exterior lighting sources within the proposed Project site would not be considered a substantial new source of light or glare adversely affecting day or nighttime views in the area.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--------------------------------------	--	-------------------------------------	--------------

3.4.2 - AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Conflict with existing zoning for agricultural use or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. 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))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Result in the loss of forest land or conversion of forest land to nonforest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to nonforest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

Impact #3.4.2a – Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

Historically, the Project site has been used for agricultural production, but has a zoning designation of Limited Industrial (M-1) and is designated as Industrial Reserve (IR) in the

General Plan. According to the Department of Conservation Farmland Mapping and Monitoring Program (FMMP), the site is predominantly classified as Farmland of Statewide Importance. According to the map, approximately 0.9 acres of the site is dedicated as Prime Farmland.

Although the intent at full buildout of the proposed entitlements would be to construct a Cannabis Business Park, the specific uses on the property may change over time for various reasons. Either way, all future uses would be required to be consistent with the City's Zoning Ordinance.

The conversion of prime agricultural land to nonagricultural land was analyzed in the 1999 City of Livingston General Plan. According to Impact #3.8.1 in the Mitigation Monitoring and Reporting Program (MMRP), under the 1999 General Plan, there's the potential to urbanize approximately 1,500 acres of prime agricultural lands, disrupt agricultural production, and/or permanently commit nonrenewable agricultural lands and soils to other uses. This impact was considered to be significant and unavoidable, and according to the City Contract Planner, a Statement of Overriding Considerations was adopted for the 1999 General Plan. Given the fact that the proposed site has already been rezoned from agricultural to industrial, the proposed Project would not further convert lands designated by the FMMP. The FMMP maps are updated periodically by the state and it is expected that this area will reflect the previous actions on the site.

Mitigation Measure(s)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.2b – Would the Project conflict with existing zoning for agricultural use or a Williamson Act Contract?

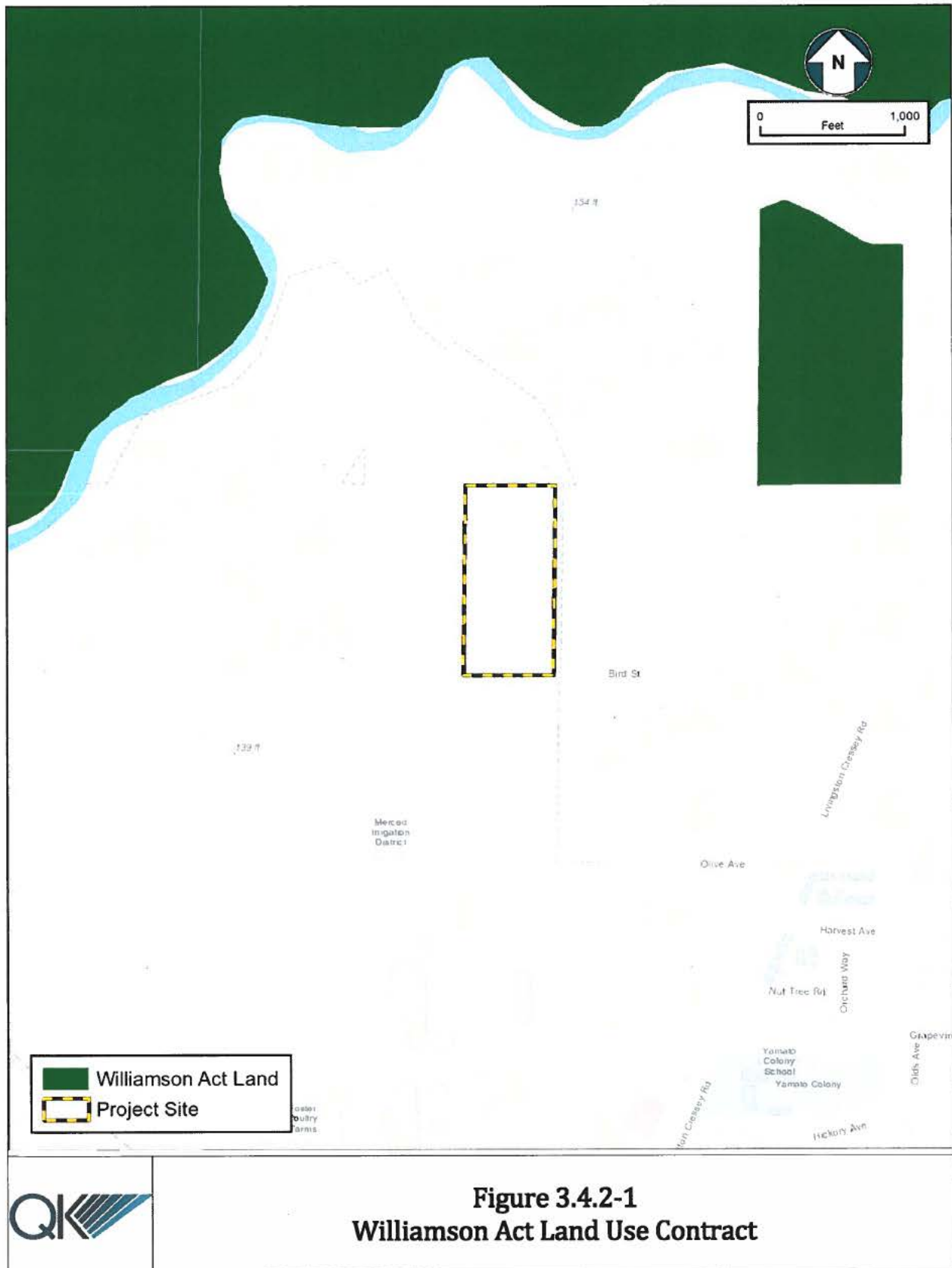
The Project site as proposed would have a zoning designation of Limited Industrial (M-1) and is designated as Industrial Reserve (IR) in the General Plan. As previously mentioned, any proposed future uses of the site would be in conformance with the City Zoning Ordinance. The site is not zoned for agricultural use and is not under a Williamson Act contract (Figure 3.4.2-1). Additionally, no land surrounding the site is under a Williamson Act contract, therefore, the Project would not be in conflict with either.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.



Impact #3.4.2c – Would the Project 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))?

The Project site is not currently zoned for forest land, timberland, or zoned Timberland Production by the City's Zoning Ordinance. Therefore, the Project will not conflict with existing zoning for, or cause the rezoning of, forest land or timberland.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.2d – Would the Project result in the loss of forest land or conversion of forest land to nonforest use?

As defined by Public Resource Code Section 12220(g), Public Resources Code Section 4526, and Government Code Section 51104(g), the Project site is not classified as forestry or timberland, nor are any of the surrounding lands in the vicinity. Therefore, the Project would not result in the loss of forest land and would not convert forest land to a nonforest use.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.2e – Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to nonforest use?

The Project site and surrounding sites currently consist of various forms of agricultural production. Although the Project site and surrounding sites are designated as M-1 on the Zoning Map and IR in the General Plan, there may be the potential for urban and agricultural interface conflicts to occur over time as the land converts from agricultural uses to nonagricultural use to be consistent with their Zoning and General Plan designations. For example, employee traffic from the Cannabis Business Park may experience delays due to on-road slow-moving farming equipment in the area.

Urban and agricultural interface conflicts are addressed in the City of Livingston 1999 General Plan Chapter 5, Section 5.1(C), which states, "Edges such as roadways, railroad

rights-of-way, irrigation ditches, shall be used as growth phasing boundaries to ensure that agricultural operations are not eliminated prematurely." Since the Project site is located along the edge of the city boundary, conversion of this land to nonagricultural use would be consistent and supported by the General Plan.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--	--------------------------------------	--	-------------------------------------	--------------

3.4.3 - AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:

a.	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

To streamline the process of assessing the significance of criteria pollutant emissions from typical projects, the SJVAPCD has developed the screening tool, Small Project Analysis Level (SPAL). Assessing the Project's SPAL by vehicle trips as well as project type, the SJVAPCD has prequantified emissions and determined a size below which it is reasonable to conclude that a project would not exceed applicable thresholds of significance for criteria pollutants. According to the SPAL requirements, no quantification of ozone precursor emissions is needed for projects less than or equal to the project type and vehicle trips thresholds established in the Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD, 2015).

The proposed Project would be subject to SJVAPCD Rules and Regulations, including but not limited, to Regulation VIII – Fugitive Dust PM₁₀ Prohibitions, Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). The Project Applicant will be required to consult with the SJVAPCD and implement any required measures.

SPAL requirements for a project in a Land Use Category of Industrial – General Light Industry must have a project size less than or equal to 510,000 square feet (see Table 3.4.3-1). The Project is composed of 22 lots and one drainage basin (Lot A); the total developable area of the Project, excluding the basin, is 752,091 square feet. Although this developable area total

is over the SPAL requirement for a General Light Industrial Land Use Category, when adjusted for the Floor Area Ratio (FAR), the total maximum building allowance is within SPAL requirements. The total maximum building allowance of the Project, adjusted to a FAR of 0.5 percent comes out to 376,046 square feet (Livingston, 2019).

Table 3.4.3-1
Small Project Analysis Level by Vehicle Trips

Land Use Category	Project Size
Residential Housing	1,453 trips/day
Commercial	1,673 trips/day
Office	1,628 trips/day
Institutional	1,707 trips/day
Industrial	1,506 trips/day

Source: San Joaquin Valley Air Pollution Control District, 2012.

Table 3.4.3-2
Land Use Category – Industrial

Land Use Category	Project Size
General Light Industry	510,000 ft ²
Heavy industry	920,000 ft ²
Industrial Park	370,000 ft ²
Manufacturing	400,000 ft ²

Source: San Joaquin Valley Air Pollution Control District, 2012.

Impact #3.4.3a – Would the Project conflict with or obstruct implementation of the applicable air quality plan?

See the discussion above. The Project meets the Land Use Category – Industrial requirements for a SPAL. Whereas the Project is consistent with the General Plan and Zoning Ordinance upon which the air quality planning is based and would not exceed applicable thresholds of significance for criteria pollutants, the Project would not conflict with or obstruct implementation of adopted air quality plans and policies. However, to ensure the Project complies with applicable SJVAPCD Rules and Regulations, the following mitigation measure would be required.

MITIGATION MEASURE(S)

- MM AQ-1:** Prior to the issuance of grading or building permits, the developer shall provide the City with evidence from the SJVAPCD of an approved Dust Control Plan or Construction Notification form under Regulation VIII – Fugitive Dust PM₁₀ Prohibitions. The subdivision project may be subject to other rules including Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance

Operation). The developer will be required to carry out measures of applicable SJVAPCD Rules and Regulations as noted.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.3b – Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard?

See Impact #3.4.3a.

The analysis above concluded that the Project would qualify as a SPAL project because it meets the SJVAPCD project screening SPAL criteria set forth in the 2015 GAMAQI. Therefore, the Project would not exceed SJVAPCD's emission thresholds for the criteria pollutants during construction and operational phases and any impact would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.3c – Would the Project expose sensitive receptors to substantial pollutant concentrations?

See Impact #3.4.3b.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.3d – Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Impacts from Hazardous Air Pollutants (HAPs) are localized impacts. According to the 2015 GAMAQI, the SJVAPCD has established thresholds of significance for toxic air contaminants (TACs) that are extremely conservative and protective of health impacts on sensitive receptors (SJVAPCD, 2015). Some examples of projects that may include HAPs are:

- Agricultural products processing

- Bulk material handling
- Chemical blending, mixing, manufacturing, storage, etc.
- Combustion equipment (boilers, engines, heaters, incinerators, etc.)
- Metals etching, melting, plating, refining, etc.
- Plastics & fiberglass forming and manufacturing
- Petroleum production, manufacturing, storage, and distribution
- Rock & mineral mining and processing

None of the example projects provided by the SJVAPCD are applicable to the proposed Project. Any emissions from the Project would be a result of the construction of businesses that wish to be a part of the Cannabis Business Park. Any emissions from construction would be temporary and localized. Additionally, the Project site is located approximately 1,500 feet north of the City's wastewater treatment plant and nearby to the existing Foster Farms facility. The proposed project at full buildout would not create any operational outdoor odors beyond what already may be generated by the nearby facilities. As part of the Phase II permitting process, the City would further analyze and mitigate any potential odors through an odor control plan that would be required to be submitted by the Applicant. Therefore, there would be a less-than-significant impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--------------------------------------	--	-------------------------------------	--------------

3.4.4 - BIOLOGICAL RESOURCES

Would the Project:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

A reconnaissance-level survey of the Project site was conducted by QK on September 17, 2019, to characterize the habitat conditions on the Project. A desktop review of literature and database sources was conducted to identify special-status biological resources with the potential to occur and be impacted by the proposed Project based on the existing condition

of the site. Database searches included the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants (CNPS 2019), the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB; CDFW 2019b), and the US Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IpaC; USFWS 2019b). Information was gathered for the Cressey, California 7.5-Minute topographical USGS quadrangle and the eight surrounding quadrangles. Additional databases that were accessed include the USFWS National Wetlands Inventory (NWI) (USFWS 2019c), National Hydrology Database (NHD) (USGS 2019).

The Biological Study Area (BSA) includes the Project site plus a 500-foot buffer.

PHYSICAL SETTING

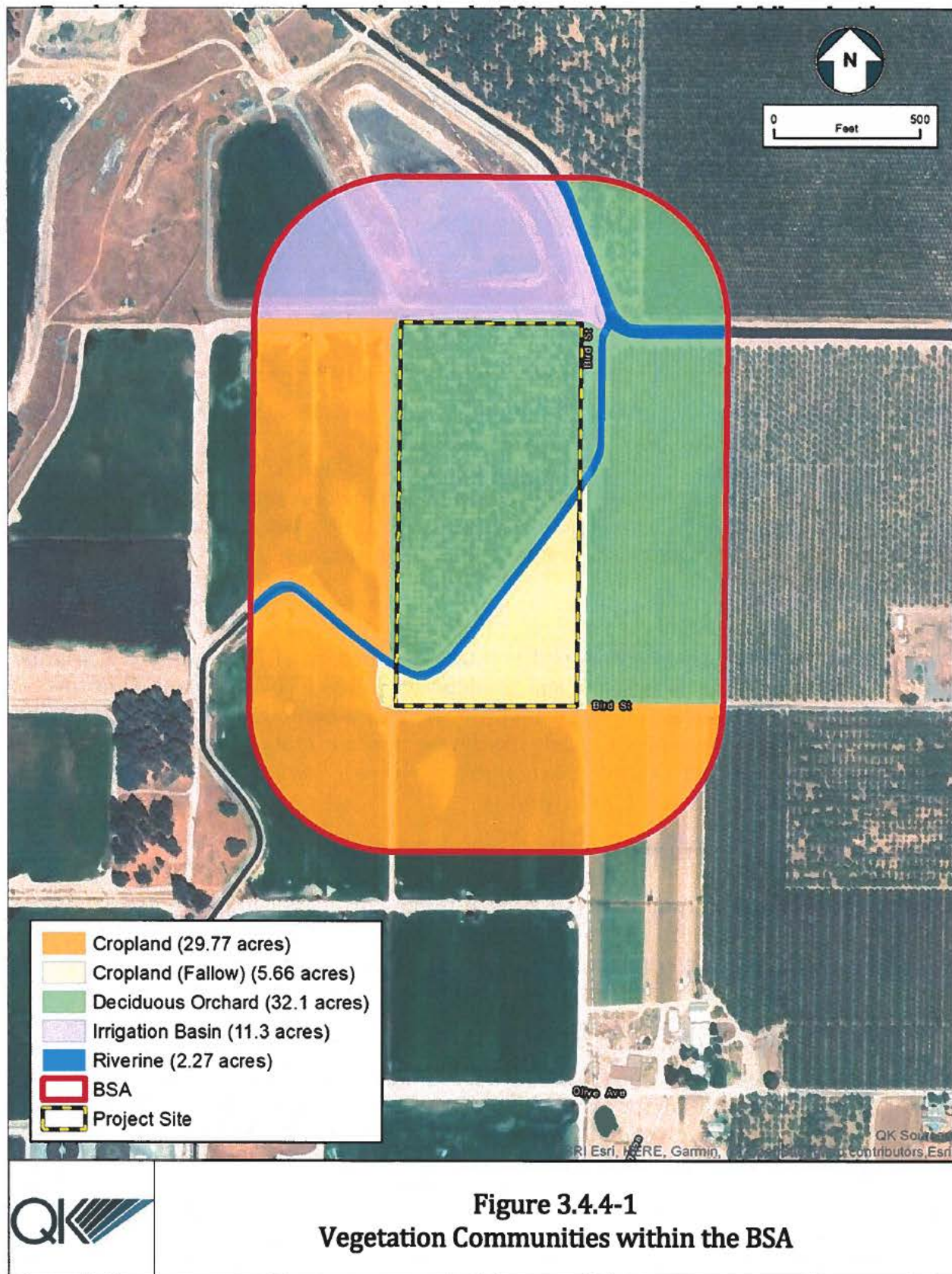
Soils

The BSA is underlain by two soil types: Delhi loamy fine sand, zero to three percent slopes, and Delhi sand, three to eight percent slopes (NRCS 2019a). The Delhi soil series consists of very deep, somewhat excessively drained soils. They formed in wind-modified material weathered from granitic rock sources. Delhi soils are on floodplains, alluvial fans, and terraces. It is used for growing grapes, peaches, truck crops, alfalfa, and for homesites. Principal native plants are buckwheat and a few shrubs and trees. Typical vegetation is annual grasses and forbs. Both soil types are considered hydric for depressions and pond features that hold water for a period of time, usually during the wet season (NRCS 2019b).

Hydrology

The BSA is located within Merced River watershed. One canal, the Hammett Lateral, bisects the Project site and has been channelized and concrete-lined (Merced Irrigation District 1973). There are several aquatic resources in the vicinity of the Project site, however none of these features will be impacted by the Project. However, as proposed, the canal will be realigned, piped and undergrounded as a part of the Project. This canal may connect to the San Joaquin River via a series of canals to the south and may be determined jurisdictional.

Vegetation



**Table 3.4.4-1
Habitat Acreages Observed Within BSA and Project Site**

Habitat Type	Acreages	
	BSA	Project Site
Deciduous Orchard		
Fallow	None	None
Maintained	32.10	None
Cropland		
Fallow	5.66	None
Maintained	29.77	0.00
Riverine	2.27	0.61
Irrigation Basin	11.30	0.00

DECIDUOUS ORCHARD

The orchards to the east of the Project site are typical of this habitat, which is normally intensively maintained and has a constant available water source for irrigation. The orchard present on-site has been fallowed for several years with the trees growing uncontrollably and a dense layer of herbs and forbs growing between the rows of trees.

CROPLAND

Cropland is a subcategory of developed habitat described in CDFW's California Wildlife Habitat Relationship (CWHR) (Mayer and Laudenslayer 1988). The dominant plant species observed in the fallow cropland to the south of Hammett Lateral is Coulter's horseweed (*Laennecia coulteri*), annual ragweed (*Ambrosia artemisiifolia*), goatshead (*Tribulus terrestris*), Russian thistle (*Salsola tragus*), rattail fescue (*Festuca myuros*), and Spanish lotus (*Acmispon americanus* var. *americanus*).

RIVERINE

The Hammett Lateral and the Livingston Canal to the northeast within the BSA would be classified as CWHR aquatic riverine habitats (Mayer and Laudenslayer 1988). CWHR describes waterways as riverine if there is an intermittent or continual (perennial) flow of water present. Except for sparse ruderal vegetation, which primarily includes Russian thistle, annual ragweed, and common sunflower (*Helianthus annuus*) that exists along the top of the banks of the Hammett Lateral bisecting the Project site, these areas of the Project site are devoid of vegetation due to the concrete lining the canal. The Livingston Canal has slightly more vegetation than the stretch running directly through the Project site, however, this section is a very small portion in the northeast that lies within the 500-foot buffer area of the BSA and will not be affected by the Project.

IRRIGATION BASIN

There are two irrigation basins to the north of the Project BSA. These are fenced-in reservoirs and are not accessible to the public and thus unable to be assessed for vegetation type occurring on the habitat. This is not part of the Project site and will not be impacted by the Project.

Impact Analysis

Impact #3.4.4a – Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

Special-Status Plant Species

The literature and database review identified 23 special-status plant species known to occur or with the potential to occur within the vicinity of the Project (Appendix B). None of those species were determined to have the potential to occur within the BSA based on the habitat conditions observed during the reconnaissance site visit and in aerial imagery. No impacts to special-status plant species will occur.

Special-Status Wildlife Species

The literature review identified 39 special-status wildlife species known to occur or with the potential to occur in the vicinity of the Project, 10 of which may be affected by the Project, but none of which would have the viability of their populations threatened. The complete list of species evaluated for this Project, including their habitat requirements, is in Appendix B.

WESTERN POND TURTLE

Within the BSA, habitat that may support western pond turtles is limited to the canal that bisects the site. It is a concrete-lined canal that does not provide suitable habitat or vegetation along the banks for basking. The top banks of the canal are sandy and could potentially provide suitable nesting habitat, however, the canal sides are lined with concrete and are steep, making it difficult if not impossible for the species to climb out of the canal. It may be a potential movement corridor for the species, however.

Direct impacts could include death or injury to individual animals and loss of habitat. Direct impacts to western pond turtles could occur if they are present in the Project canal when the canal is piped and undergrounded. Direct impacts to nests could occur if nests are present in surrounding upland habitat when construction occurs. Indirect impacts are unlikely given the short duration and limited nature of impacts relative to Hammett Lateral where the species is most likely to occur.

**Table 3.4.4-2
Special-Status Species with Potential to Occur On-Site**

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Potentially Affected by Project? Yes/No	Viability Threat? Yes/No
Reptiles			
<i>Actinemys [=Emys] marmorata</i> western pond turtle	-/- SSC	Yes	No
Birds			
<i>Athene cunicularia</i> burrowing owl	-/- SSC	Yes	No
<i>Buteo swainsoni</i> Swainson's hawk	-/ST -/-	Yes	No
Mammals			
<i>Antrozous pallidus</i> pallid bat	-/- -/SSC	Yes	No
<i>Eumops perotis californicus</i> western mastiff bat	-/- -/SSC	Yes	No
<i>Lasiurus blossevillei</i> western red bat	-/- -/SSC	Yes	No
<i>Lasiurus cinereus</i> hoary bat	-/- -/-	Yes	No
<i>Myotis yumanensis</i> Yuma myotis	-/- -/-	Yes	No
<i>Taxidea taxus</i> American badger	-/- -/SSC	Yes	No
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	FE/ST -/-	Yes	No

Source: CDFW 2019b 2019d, 2019e, USFWS 2019b

FE Federally Endangered

ST State Threatened

SSC State Species of Special Concern

WESTERN BURROWING OWL

Within the BSA, suitable habitat for burrowing owls is limited to the northern fallowed orchard. There were ground squirrel burrows observed in the fallow cropland in the south, but the sandy soil is prone to collapse, and the regular disking of the field makes this location unlikely for burrowing owls.

Direct impacts could include injury or death of individuals, including the abandonment of nests if occupied burrows are adjacent to construction areas. Noise and vibration from the construction of the Project, plus the presence of construction workers, could alter the normal behaviors of nesting adults, resulting in harm or death to eggs or nestlings. Direct impacts could also include the loss of suitable foraging habitat for the construction of the Project, however, there is ample foraging habitat to support burrowing owls in the vicinity of the Project. No indirect impacts are anticipated given the short duration of construction and the limited nature of impacts to suitable habitat.

SWAINSON'S HAWK

Based on review of aerial imagery and information from the reconnaissance site visit, there are eucalyptus trees (*Eucalyptus camaldulensis*) that could support nesting Swainson's hawks to the southwest of the Project site. These trees are mostly on the periphery of the BSA and further beyond. There are also power poles that could be used for nesting on the periphery of the site. The fallowed cropland on-site and the irrigated cropland adjacent to the site could support foraging, and there is ample foraging habitat throughout the region.

Direct impacts to Swainson's hawks could occur if the replacement of sewer lines occurs near an active nest or in foraging habitat during the nesting season. No trees are expected to be removed, but noise and vibration from the construction of the Project, plus the presence of construction workers, could alter the normal behaviors of nesting adults, resulting in harm or death to eggs or nestlings. Loss of grassland habitat for construction of the sludge facility would also be considered a direct impact, but the parcel is small and there is ample foraging habitat in the vicinity. No indirect impacts are anticipated given the short duration of construction in any given area and no loss of suitable nesting habitat would occur.

PALLID BAT, WESTERN MASTIFF BAT, WESTERN RED BAT, HOARY BAT, AND YUMA MYOTIS

Because orchard trees are typically well maintained, the potential for hollowed-out cavities, even in a fallowed orchard, is limited. The orchard was fallowed, but not neglected to the point of observable cavities present in the trees. The almond trees are also grouped closely, restricting the flyout and foraging space for these bat species prefer, which is made more restrictive by tree overgrowth from lack of maintenance. Roosting is unlikely because bats need ample space to take off from a roost and the close proximity of orchard trees is restrictive. More suitable trees for roosting exist in a stand of eucalyptus to the southwest of the Project site.

The bridge to the northeast of the site is a low bridge over the Hammett Lateral. There is little open airspace between the water and the bridge's underside. Because bats require space to drop down from a roosting space when leaving a roost site, the potential for bats to utilize the bridge on-site is low. These factors of the Project site result in a low potential for these species to be present.

Direct impacts may occur if special-status bats are disturbed from day roosts by construction activities, but such disturbance is likely to be minimal because these species commonly occur in urban habitats. Orchard trees were removed from the Project site, but loss of foraging and roosting habitat would be negligible because there is ample foraging and roosting habitat available off-site in the Project vicinity. No indirect impacts are anticipated given the short duration of construction and the limited nature of impacts to suitable habitat.

AMERICAN BADGER

Within the BSA there is suitable denning and foraging habitat for this species, especially underneath the remnant root systems of removed orchard trees in the north section of the

Project site where potential dens were observed. The soils along the top and outer banks of the canal may provide suitable denning habitat because the soil is friable. It is sandy soil and more prone to collapse. The likelihood for this region of the site to be used for American badger denning is low. The supportive roots from trees removed in the north section are more likely to support dens in this sandy substrate.

Direct impacts to American badger could occur if they are present in the cropland or orchard habitat when construction occurs. These direct impacts could include death or injury to individuals or young, including the abandonment of young if adults are stressed. Direct impacts could also include the entrapment of adults or young if there are trenches nearby, as well as loss of suitable habitat. The loss of suitable habitat could result in indirect impacts through increased competition with conspecifics for limited resources over the long term.

SAN JOAQUIN KIT FOX

Suitable habitat is present within the vicinity of the Project limits in the fallow orchard habitat to the north where potential dens were observed beneath the remnant root systems of removed orchard trees. This species is highly adaptable to human-altered landscapes and can be found in urban developed areas, particularly where there is open space, such as parks, schools, and stormwater basins.

Direct impacts resulting in injury or death of pups could occur if an active natal den is located near the construction area, causing the adults to alter normal behaviors. Direct impacts by vehicles are a concern for San Joaquin kit foxes in urban environments, but the proposed Project would not cause an appreciable increase in traffic at night when the species is active. Direct impacts could also include entrapment in trenches or pipes during construction and loss of suitable habitat. The loss of suitable habitat could result in indirect impacts through increased competition with conspecifics for limited resources over the long term.

MIGRATORY BIRDS

The Project site and surrounding area contain suitable habitat that could support a wide variety of nesting bird species protected under the Migratory Bird Treaty Act and the California Fish and Game Code. Orchard trees were removed and Project activities adjacent to nesting birds could result in direct impacts to the nests from noise and vibration caused by construction activities. The stand of eucalyptus trees to the southwest of the Project site and the trees and power poles on and immediately adjacent to the Project site provides nesting substrate for raptors and other birds that may be disturbed during construction of the Project. If construction in the fallowed cropland occurs during the nesting season, active nests for ground-nesting species could be impacted. No indirect impacts are anticipated as the amount of suitable nesting habitat that would be lost is negligible and ground-nesting species are adaptable to changing habitat conditions.

In consideration of the above, it has been determined that impacts from the proposed Project would be less than significant with the implementation of the recommended mitigation measures BIO-1 through BIO-8.

MITIGATION MEASURE(S)

- MM BIO-1:** Within 14 days of the start of Project activities on-site and in adjacent habitat, a pre-activity survey shall be conducted by a qualified biologist knowledgeable in the identification of this species. The surveys shall cover the canal plus surrounding upland habitat within 50 feet of the canal. Pedestrian surveys achieving 100 percent visual coverage will be conducted. If a western pond turtle is found on-site, the qualified biologist may relocate the animal downstream more than 500 feet from the Project disturbance footprint.
- MM BIO-2:** Within 14 days of the start of Project activities in any specific area, a pre-activity survey shall be conducted by a qualified biologist knowledgeable in the identification of these species. The surveys shall cover the Project site plus a 500-foot buffer. Pedestrian surveys achieving 100 percent visual coverage shall be conducted. Multiple surveys are anticipated to be needed, which would be phased with the construction of the Project. If no evidence of these species is detected, no further action is required.
- MM BIO-3:** If dens/burrows that could support any of these species are discovered during the pre-activity surveys conducted under BIO MM-2, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

San Joaquin Kit Fox

- Potential Den – 50 feet
- Atypical Den – 50 feet (includes pipes and other manmade structures)
- Known Den – 100 feet
- Natal/Pupping Den – 500 feet

American Badger Dens (occupied)

- Natal Den (February 1–July 1) – 250 feet
- Non-natal Den – 50 feet

Burrowing Owl (active burrows)

- April 1–October 15 – 500 feet
- October 16–March 31 – 100 feet

- MM BIO-4:** The following avoidance and minimization measures shall be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the US Fish and Wildlife Service *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011) and apply to all three species.
- Project-related vehicles shall observe a daytime speed limit of 20 mph throughout the site in all Project areas, except on county roads and state and federal highways. Nighttime construction speed limits shall be 10 mph.

- Off-road traffic outside of designated Project areas shall be prohibited.
- All Project activities shall occur during daylight hours.
- To prevent inadvertent entrapment of kit foxes or other animals during the construction of the Project, all excavated, steep-walled holes or trenches more than two-feet deep shall be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed.
- Before holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the USFWS and the CDFW shall be contacted before proceeding with the work.
- In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape, or the USFWS shall be contacted for guidance.
- All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes and burrowing owls before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox or burrowing owl is discovered inside a pipe, that section of pipe shall not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity until the fox or owl has escaped.
- All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from a construction or Project site.
- No firearms shall be allowed on the Project site, except by authorized law enforcement personnel.
- No pets, such as dogs or cats, shall be permitted on the Project site.
- Use of rodenticides and herbicides in Project areas shall be restricted.
- A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or burrowing owl or who finds a dead, injured, or entrapped kit fox, or burrowing owl. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the US Fish and Wildlife Service and California Department of Fish and Wildlife.
- An employee education program shall be developed and presented to Project personnel. The program shall consist of a brief presentation by persons knowledgeable in kit fox, and burrowing owl, biology, and the legislative protections in place. The program shall include the following: a description of each species' natural history and habitat needs; a report of the occurrence of each species in the Project area; an explanation of the status of each species and its protections under federal and state laws; and

a list of measures being taken to reduce impacts to each species during Project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the previously referenced people and anyone else who may enter the Project site.

- Upon completion of the Project, all areas subject to temporary ground disturbances (including storage and staging areas, temporary roads, pipeline corridors, etc.) shall be recontoured if necessary and revegetated to promote restoration of the area to pre-project conditions. An area subject to temporary disturbance means any area that is disturbed during the Project, but after project completion, will not be subject to further disturbance and has the potential to be revegetated.
- Any Project personnel who are responsible for inadvertently killing or injuring one of these species should immediately report the incident to their representative. This representative shall contact the CDFW and USFWS immediately in the case of a dead, injured, or entrapped listed animal.
- The Sacramento Fish and Wildlife Office and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during Project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information.
- New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the USFWS.

MM BIO-5: If Project activities must occur during the nesting season (February 15 to August 31), pre-activity nesting bird surveys shall be conducted within seven days prior to the start of construction at the construction site plus a 250-foot buffer for songbirds and a 500-foot buffer for raptors (other than Swainson's hawk). The surveys shall be phased with the construction of the Project. If no active nests are found, no further action is required, however, nests may become active at any time throughout the summer, including when construction activities are occurring. If active nests are found during the survey or at any time during the construction of the Project, an avoidance buffer ranging from 50 feet to 350 feet may be required, as determined by a qualified biologist. The avoidance buffer will remain in place until the biologist has determined that the young are no longer reliant on the nest. Work may occur within the avoidance buffer under the approval and guidance of the biologist. The biologist shall have the ability to stop construction if nesting adults show sign of distress.

MM BIO-6: If Project activities must occur during the nesting season (February 15 to August 31), pre-activity surveys shall be conducted for Swainson's hawk nests in accordance with the Recommended Timing and Methodology for

Swainson's Hawk Nesting Surveys in California's Central Valley, Swainson's Hawk Technical Advisory Committee (CDFW 2000). The surveys would be conducted on the Project site plus a half-mile buffer. To meet the minimum level of protection for the species, surveys shall be conducted during at least two survey periods. The survey will be conducted in accordance with the methodology outlined in existing protocols and shall be phased with the construction of the Project.

If no Swainson's hawk nests are found, no further action is required.

MM BIO-7: If an active Swainson's hawk nest is discovered at any time within one-half mile of active construction, a qualified biologist will complete an assessment of the potential for current construction activities to impact the nest. The assessment will consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to the construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed and the level of nest monitoring required. Minimally, construction activities should not occur within 100 feet of an active nest and may require monitoring if within 500 feet of an active nest. The qualified biologist should have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nest location, the sensitivity of the nesting Swainson's hawk to disturbances, and the discretion of the qualified biologist.

MM BIO-8: Prior to start of construction activities, a qualified biologist shall conduct a preconstruction survey with special attention to trees and manmade structures, including a daytime inspection and a flyout inspection at dusk. The survey shall be conducted within 14 days prior to the construction activities. If no bats are detected, no further action is required.

If bats are detected, acoustical sampling shall be conducted to identify the species present. If pallid bats, western mastiff bats, or hoary bats are identified to be roosting in the trees or structures, work shall not commence until all of the following have been implemented:

- Bats have been passively excluded from the tree or structure by progressively boarding up any entrances at night while bats are foraging away from the tree or structure. Relocation of bats may not be performed during the breeding season (March 1 to September 15).
- Permanent, elevated bat houses have been installed outside of, but near the construction area, preferably in designated open space areas. Placement and height shall be determined by a qualified biologist, but the height of a bat house shall be at least 15 feet. Bat houses shall be multi-chambered. The number of bat houses required shall be dependent upon

the size and number of colonies present, but at least one bat house shall be installed for each pair of bats (if occurring individually) or each colony of bats found.

- If a tree or structure containing a roost for pallid, western mastiff, or hoary bats shall be removed or may lead to roost abandonment during construction, a qualified biologist shall design and determine an appropriate location for an alternate roost structure.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.4b – Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

As noted previously the Hammett Lateral may flow to the San Joaquin River through a series of canals, which connects to the Sacramento River at the Sacramento-San Joaquin Delta, and the Pacific Ocean.

A formal delineation of the canal that will be impacted by the Project was not conducted during the reconnaissance survey of the Project. As such, a formal field delineation of waters of the State and waters of the U.S. would determine whether the canal is considered jurisdictional and determine if permits would be required from the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), or California Department of Fish and Wildlife (CDFW) for development within this area. BIO-9 requires a delineation of the drainage and determination of jurisdiction prior to the issuance of grading permits. If the drainage is jurisdictional, additional permitting with the appropriate regulatory agencies is also required prior to construction activities. With implementation of BIO-9, impacts of the Project to waters and wetlands would be less than significant.

MITIGATION MEASURE(S)

BIO-9 Prior to issuance of any grading or building permit, the applicant or developer shall submit a final Delineation report and evidence of the pertinent permits to the City of Livingston. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:

5. Delineation of all jurisdictional features at the project site. Potential jurisdictional features within the project boundary identified in the jurisdictional delineation report may be shown in plan form.
6. If the Project has a potential to directly or indirectly impact jurisdictional aquatic resources, a formal aquatic resource delineation of these areas shall be performed by a qualified professional to determine the extent of agency jurisdiction and permits/authorizations from the appropriate regulating agencies (Central Valley

Regional Water Quality Control Board (RWQCB), CDFW and US Army Corps of Engineers (USACE) shall be obtained prior to disturbance to jurisdictional features.

If it is determined that canal is jurisdictional and cannot be avoided, the Project proponent shall obtain a Section 401 Waters Quality Certification from the RWQCB, a Section 404 permit from USACE and a Lake and Streambed Alteration Agreement from the CDFW, if required prior to impacting any waters.

As part of these authorizations, compensatory mitigation may be required by the regulating agencies to offset the loss of aquatic resources. If so, and as part of the permit application process, a qualified professional shall draft a Monitoring Plan to address implementation and monitoring requirements under the permit to ensure that the Project would result in no net loss of habitat functions and values. The Plan shall contain, at a minimum, mitigation goals and objectives, mitigation location, a discussion of actions to be implemented to mitigate the impact, monitoring methods and performance criteria, extent of monitoring to be conducted, actions to be taken in the event that the mitigation is not successful, and reporting requirements. The Plan shall be approved by the appropriate regulating agencies and compensatory mitigation shall take place either on site or at an appropriate off-site location.

7. Any material/spoils generated from project activities containing hazardous materials shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. Protection measures should follow project-specific criteria as developed in a Stormwater Pollution Prevention and Protection Plan (SWPPP).
8. Equipment containing hazardous liquid materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and at least 50 feet outside the delineated boundary of jurisdictional water features.

Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative shall be notified.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated.*

Impact #3.4.4c – Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

There are no wetlands on-site. The Project will have no substantial adverse effect on State or federally protected wetlands.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.4d – Would the Project 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?

Wildlife movement corridors, also referred to as dispersal corridors or landscape linkages, are generally defined as linear features along which animals can travel from one habitat or resource area to another. Wildlife movement corridors can be large tracts of land that connect regionally important habitats that support wildlife in general, such as stop-over habitat that supports migrating birds or large contiguous natural habitats that support animals with very large home ranges (e.g., coyotes [*Canis latrans*], mule deer [*Odocoileus hemionus californicus*]). They can also be small-scale movement corridors, such as riparian zones, that provide connectivity and cover to support movement at a local scale.

The Project is not located within any identified wildlife linkages or corridors identified by the California Essential Habitat Connectivity Project (Spencer et al. 2010) or the Recovery Plan for Upland Species of the San Joaquin Valley, California (USFWS 1998). The canals on and adjacent to the site may provide localized movement corridors for animal species that are adaptable to human-altered landscapes, though they are disturbed and lack natural riparian habitat. It is unlikely that these canals support substantial wildlife movement.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.4e – Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The proposed Project does not conflict with the 2030 Merced County General Plan.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.4f – Would the Project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

The PG&E San Joaquin Valley Operations and Maintenance Habitat Conservation Plan is the only conservation plan overlying the proposed Project, but it does not apply to any projects that are not implemented by PG&E (CDFW 2019a). As such, the proposed Project will not conflict with any adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approval local, regional, or state habitat conservation plan.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--	--------------------------------------	--	-------------------------------------	--------------

3.4.5 - CULTURAL RESOURCES

Would the Project:

- | | | | | | |
|----|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a. | Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. | Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. | Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Discussion

Impact #3.4.5a – Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?

Impacts on cultural resources can result either directly or indirectly from preconstruction activities and construction of the proposed Project. Direct impacts are those that result from the immediate disturbance of resources from vegetation removal, vehicle travel over the surface, earthmoving activities, excavation, or alteration of a resource. Indirect impacts are those that result from increased erosion due to site clearance and preparation or from inadvertent damage or outright vandalism to exposed resource materials which could occur due to improved accessibility.

The Project site is substantially disturbed due to previous agricultural activities, including disking. Based on an evaluation of the environmental setting and features associated with known sites, Native American resources in the general vicinity of the proposed Project site have typically been found in flatland areas that are adjacent to freshwater sources. The proposed Project is located approximately 1,730 feet east of the Merced River. A cultural records search through the Central California Information Center (CCIC) of the California Historical Resources Information System was conducted on August 12, 2019, to identify areas previously surveyed and identify known cultural resources present within or in close proximity to the Project area (Appendix C). The response from the CCIC stated that there were no prehistoric or historic-era archaeological resources reported. In the same records search, CCIC also determined that there are no known resources to be of value to local cultural groups.

Although cultural, historical, and archeological resources may not be on-site, mitigation is required for implementation of standard inadvertent discovery procedures to reduce the

potential for impacts to undiscovered subsurface historic and archaeological resources. In consideration of the above, it has been determined that impacts from the proposed Project would be less than significant with the following mitigation measures.

MITIGATION MEASURE(S)

MM CUL-1: Although there is no recorded evidence of historic or archaeological sites within the Project area, there is the potential during Project-related excavation and construction for the discovery of these types of resources. The Applicant shall incorporate into the construction contract(s) for the Project a provision that if a potentially significant historical or archaeological resource is encountered during subsurface construction activities (i.e., trenching, grading), all construction activities within a 50-foot radius of the identified potential resource shall cease until a qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation (DPR) forms. The archaeologist shall determine whether the item requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under CEQA, the archaeologist shall recommend a feasible protocol, which may include avoidance, preservation in place or other appropriate measures, as outlined in Public Resources Code Section 21083.2.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.5b – Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

See above discussion in Impact #3.4.5a. Although there is no recorded evidence of archaeological sites within the Project area, there is the potential during Project-related excavation and construction for the discovery of these types of resources. Therefore, this could be a potentially significant impact.

MITIGATION MEASURE(S)

Implement MM CUL-1.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.5c – Would the Project disturb any human remains, including those interred outside of formal cemeteries?

See above discussion in Impact #3.4.5a. Although it's not anticipated that human remains will be located within the Project area, there is the unlikely potential during Project-related

excavation and construction for the discovery of human remains. Therefore, this could be a potentially significant impact.

MITIGATION MEASURE(S)

MM CUL-2: If ground-disturbing activities uncover previously unknown human remains, Section 7050.5 of the California Health and Safety Code applies, and the following procedures shall be followed:

There shall be no further excavation or disturbance of the area where the human remains were found until the County Coroner/Sheriff's Office is contacted. Duly authorized representatives of the Coroner shall be permitted onto the Project site and shall take all actions consistent with Health and Safety Code Section 7050.5 and Government Code Section 27460, et seq. Excavation or disturbance of the area where the human remains were found, or within 50 feet of the find, shall not be permitted to recommence until the Coroner determines that the remains are not subject to the provisions of law concerning investigation of the circumstances, manner, and cause of any death. If the Coroner determines the remains are Native American, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in Public Resources Code (PRC) Section 5097.98.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--	--------------------------------------	--	-------------------------------------	--------------

3.4.6 - ENERGY

Would the Project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

Impact #3.4.6a – Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Electrical service to the Project site is provided by PG&E. The use of electricity by cannabis production varies according to the specific use and the activities associated with the use.

California has implemented numerous energy efficiency and conservation programs that have resulted in substantial energy savings. California has adopted comprehensive energy efficiency standards as part of its Building Standards Code, California Codes of Regulations, Title 24. In 2009, the California Building Standards Commission adopted a voluntary Green Building Standards Code, also known as CALGreen, which became mandatory in 2011. CALGreen sets forth mandatory measures, applicable to new residential and nonresidential structures as well as additions and alterations, on water efficiency and conservation, building material conservation, interior environmental quality, and energy efficiency. California has adopted a Renewables Portfolio Standard, which requires electricity retailers in the state to generate 33 percent of the electricity they sell from renewable energy sources (i.e., solar, wind, geothermal, hydroelectric from small generators, etc.) by the end of 2020. In 2018, SB 100 was signed into law, which increases the electricity generation requirement from renewable sources to 60 percent by 2030 and requires all the State's electricity to come from carbon-free resources by 2045.

The main sources of energy consumption would be construction activities and ongoing Project operations. Project construction would involve fuel consumption and the use of other nonrenewable resources. Construction equipment used for such improvements typically runs on diesel fuel or gasoline. The same fuels typically are used for vehicles that transport equipment and workers to and from a construction site. However, construction-related fuel consumption would be finite, short-term, and consistent with construction activities of a

similar character, whether for a cannabis-related business park or another industrial-type business park. This energy use would not be considered wasteful, inefficient, or unnecessary. Additionally, it's expected that the business park would be constructed over a period of time and not all at once. Therefore, it's anticipated that construction equipment over time would be more energy-efficient in order to assist with meeting California's emissions reduction goals. Additionally, under California's Renewables Portfolio Standard, a greater share of electricity would be provided from renewable energy sources over time, so less fossil fuel consumption to generate electricity would occur.

The Project would be required to comply with the building energy efficiency standards of the California Code of Regulations Title 24, Part 6, also known as the California Energy Code. Compliance with these standards would reduce energy consumption associated with Project operations, although reductions from compliance cannot be readily quantified at this time. Overall, Project construction and operations would not consume energy resources in a manner considered wasteful, inefficient, or unnecessary. Project impacts related to energy consumption are considered less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.6b – Would the Project Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

As stated above, overall Project construction and operations would not consume energy resources in a manner considered wasteful, inefficient, or unnecessary. All future Project buildout associated with the proposed entitlements would be required to be consistent with the energy efficiency goals of Title 24, therefore, the Project would not conflict with or obstruct a state or local plan for renewable or energy efficiency.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--------------------------------------	--	-------------------------------------	--------------

3.4.7 - GEOLOGY AND SOILS

Would the Project:

- | | | | | | |
|------|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. | Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i. | Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii. | Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii. | Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv. | Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. | Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. | 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 offsite landslide, lateral spreading, subsidence, liquefaction, or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. | Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e. | Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

☐☒☐☐

Discussion

Impact #3.4.7a(i) – Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The San Joaquin Valley, which includes the Livingston area, is a topographic and structural basin that is bounded on the east by the Sierra Nevada and on the west by the Coast Ranges. The Coast Ranges evolved as a result of folding, faulting, and accretion of diverse geologic terrains. They are composed chiefly of sedimentary and metamorphic rocks that are sharply deformed into complex structures. They are broken by numerous faults, the San Andreas Fault being the most notable structural feature. Both the Sierra Nevada and Coast Ranges are geologically young mountain ranges and possess active and potentially active fault zones. The nearest faults of major historical significance within the vicinity of Merced County are: the San Andreas Fault to the west at a distance of approximately 60 to 70 miles from the Site; portions of the Hayward, Greenville, and Rinconada Faults to the west; and the Bear Mountain Fault Zone about five miles east of and parallel to the eastern border of Merced County. The proposed Project site is not located within a current Alquist-Priolo Earthquake Fault Zone and there are no known active faults located in the Project vicinity. The nearest faults of major historical significance within the vicinity of Merced County are the San Andreas Fault to the west at a distance of approximately 15 miles from the county line; the Hayward, Greenville, and Calaveras Faults to the northwest; and the Bear Mountain Fault Zone about five miles east of and parallel to the eastern border of Merced County. The Alquist-Priolo Earthquake Fault Zoning Act lists the Ortigalita Fault as the only active fault in Merced County. However, it has not been active within historic times (1,800 years ago to present) with the last surface rupture occurring within the Holocene period (11,000 years before the present).

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.7a(ii) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

According to the California Geological Survey's 2008 Earthquake Shaking Potential for California map, the Project site is in a region that is "distant from known, active faults and

will experience lower levels of shaking less frequently. In most earthquakes, only weaker, masonry buildings would be damaged. However, very infrequent earthquakes could still cause strong shaking here.”

All structures will have to be constructed in compliance with the International Building Code and the City of Livingston’s building standards. Building codes in California incorporate design features that help to make buildings safer during earthquake events.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.7a(iii) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction occurs in saturated soils that are normally next to water bodies. Soil liquefaction is a state of soil particle suspension, caused by a complete loss of strength when the effective stress drops to zero. When spaces between the individual soil particles are filled with water, pressure is exerted, and they are pressed together. Prior to an earthquake, the water pressure is relatively low, however, earthquake shaking can cause the water pressure to increase to the point where the soil particles can readily move. Liquefaction normally occurs in soils, such as sands, in which the strength is purely frictional. The predominant soils within the Project site consist of alternating layers of silty sand, sandy silt, sand, and silt sand/sand. The potential for soil liquefaction during a seismic event was evaluated for the Project (Krazan & Associates, 2019), which can be found in Appendix D of this document. Using a maximum earthquake magnitude of 6.27 a peak horizontal ground surface acceleration of 0.347g was considered conservative and appropriate for the liquefaction analysis. Soils above a depth of seven feet are non-liquefiable due to the absence of groundwater. Liquefaction potential should be low since ground shaking intensities within the vicinity are not strong enough to generate this type of failure. In addition to this, there are no known occurrences of structural or architectural damage due to deep subsidence in the Livingston Area (Krazan & Associates, 2019). According to the City of Livingston General Plan, a lack of fault traces in the City of Livingston eliminates ground displacement as a seismic concern, with exception of the rare event in which a dam failure would occur upstream. Livingston is designated as being within the inundation area of the Exchequer and McSwain dams. The Exchequer Dam and the McSwain Dam are both approximately 37 miles from the Project site.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.7a(iv) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

With exception of the drainage basin to the north of the Project site, the nearest water body is the Merced River which is approximately 1,730 feet away. In addition, the Project site and surrounding areas are relatively flat making the possibility of landslides rare.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.7b – Would the Project result in substantial soil erosion or the loss of topsoil?

The surface soils of the Project site consist of approximately six to 12 inches of very loose silty sand. These soils are disturbed, have low-strength characteristics, and are highly compressible when saturated (Krazan & Associates, 2019). Since the Project site has been historically disturbed to accommodate the agricultural activities, there would be limited future grading activities that would increase the potential for erosion during construction. Construction Project proponents will be required to submit a Notice of Intent and Storm Water Pollution Prevention Plan (NOI/SWPPP) to the RWQCB to obtain a National Pollution Discharge Elimination System (NPDES) General Construction Permit. The SWPPP will include Best Management Practices (BMPs) to control erosion and siltation on the site in order to prevent water quality degradation. Such measures may include, but are not limited to, covering the graded area with straw or straw matting and using water for dust control.

MITIGATION MEASURE(S)

MM GEO-1: Prior to Project implementation, the Applicant shall submit an approved copy of (1) the approved Storm Water Pollution Prevention Plan (SWPPP), and (2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and the NPDES shall be incorporated into the design specifications and construction contracts.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation*.

Impact #3.4.7c – Would the Project 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 offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

Subsurface soil conditions were explored by drilling six borings to depths ranging from approximately 10 to 50 feet below the existing site grade, using a truck-mounted drill rig. Figure 3.4.7-1 shows the sites where the borings were drilled. Based on the results of the drilling, the subsurface conditions encountered appear typical of those found in the geologic region of the site (Krazan & Associates, 2019). The proposed Project site consists predominantly of Delhi Sand with three to eight percent slopes which are excessively drained. It only consists of Delhi Loamy fine sand, silty substratum with zero to three percent slopes, and Delhi sand with three to eight percent slopes. The site is not 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 offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.

MITIGATION MEASURE(S)

No mitigation is required.

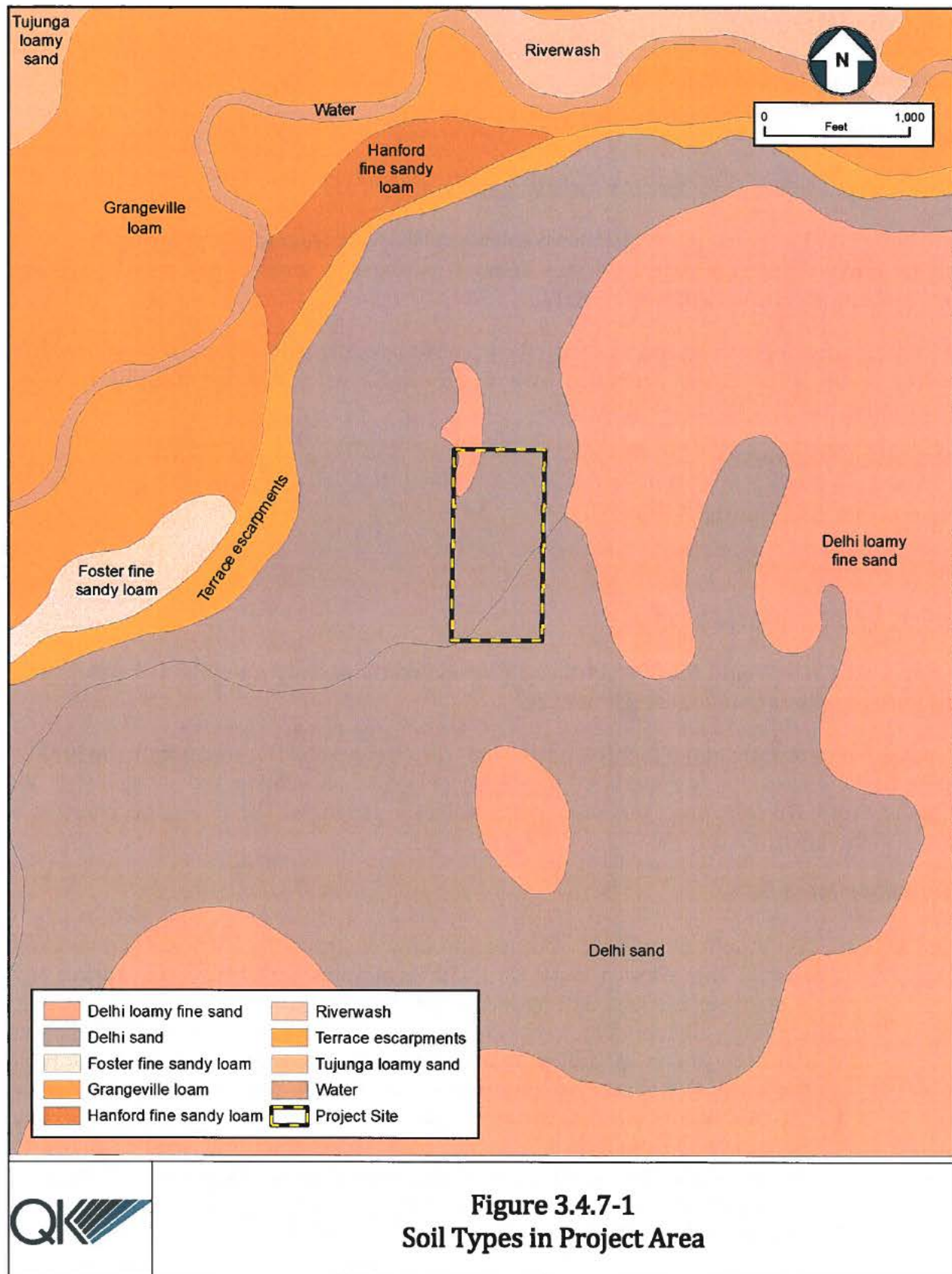
LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.7d – Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Soils associated with a high risk for expansion are generally characterized as dense material with less air-filled voids, and therefore have a greater potential to undergo volume change. The volume of change is influenced by the quantity of moisture, the kind and amount of clay in the soil, and the original porosity of the soil.

According to the United States Department of Agriculture, Natural Resources Conservation Service Web Soil Survey, soil at the Project site is identified as Delhi sand, with three to eight percent slopes (Figure 3.4.7-1). This soil series consists of very deep, somewhat excessively drained soils. They formed in wind-modified material weathered from granitic rock sources. Delhi soils are on floodplains, alluvial fans, and terraces. Based on the predominant type of soil documented on the Project site (sand versus clay), the Project would not be located on expansive soils.



MITIGATION MEASURE(S)

NO MITIGATION IS REQUIRED.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.7e – Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

Any future development associated with the proposed entitlements would be served by City sewer services. Therefore, the Project site would not consist of the use of septic tanks or alternative wastewater disposal systems.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.7f – Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Although it's not anticipated that paleontological resources will be located within the Project area, there is the unlikely potential during Project-related excavation and construction for the discovery of a previously unknown paleontological resource. Therefore, this could be a potentially significant impact.

MITIGATION MEASURE(S)

MM GEO-2: The Applicant will incorporate into the construction contract(s) a provision that in the event a fossil or fossil formations are discovered during any subsurface construction activities for the proposed Project (i.e., trenching, grading), all excavations within 50 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the Applicant, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the Applicant shall implement those measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code Section 21083.2.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated.*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--	--------------------------------------	--	-------------------------------------	--------------

3.4.8 - GREENHOUSE GAS EMISSIONS

Would the Project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

Discussion

Greenhouse Gases (GHGs) are identified as any gas that absorbs infrared radiation in the atmosphere. GHGs include water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), halogenated fluorocarbons (HCFCs), ozone (O₃), perfluorinated carbons (PFCs), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF₆). On December 7, 2009, the Environmental Protection Agency (EPA) issued an Endangerment Finding on the above-referenced key well-mixed GHGs. These GHGs are considered "pollutants" under the Endangerment Finding. However, these findings do not impose any requirements on industry or other entities.

Addressing GHG generation impacts requires an agency to make a determination as to what constitutes a significant impact. The CEQA Guidelines specifically allow lead agencies to determine thresholds of significance that illustrate the extent of an impact and are a basis from which to apply mitigation measures. This means that each agency is left to determine if a project's GHG emissions would have a significant impact on the environment. The guidelines direct that agencies are to use "careful judgment" and "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" the development's GHG emissions (14 CCR Section 15064.4[a]). Determining a threshold of significance for climate change impacts poses a special difficulty for lead agencies. Much of the science in this area is new and is evolving constantly. At the same time, neither the state nor local agencies are specialized in this area, and there are currently no local, regional, or state thresholds for determining whether a residential development has a significant impact on climate change. The CEQA Amendments do not prescribe specific significance thresholds but instead leave considerable discretion to lead agencies to develop appropriate thresholds to apply to projects within their jurisdiction.

The Global Warming Solutions Act [Assembly Bill (AB) 32] was passed by the California legislature and signed into law by the Governor in 2006. AB 32 requires that GHGs emissions

in 2020 be reduced to 1990 levels. GHGs rules and market mechanisms for emissions reduction were required to be in place as of January 2012.

Impact #3.4.8a – Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

For this Project, the most practical way to determine environmental impacts is to compare existing and future conditions. The number of anticipated employees for the buildout of the Cannabis Business Park is not known at this time, however, it's not expected to be significantly more than the workforce levels needed to service the fields (when actively farmed) and maintain the property.

Several State-initiated GHG emissions-reducing regulations have recently taken effect, and changes to regulations will continue to take effect in the near future that will substantially reduce GHG emissions. For instance, implementation of Assembly Bill 1493 (the Pavley Standard) (Health and Safety Code Sections 42823 and 43018.5) will significantly reduce the amount of GHGs emitted from passenger vehicles. The Pavley Standard is aimed at reducing GHG emissions from noncommercial passenger vehicles and light-duty trucks of model years 2009–2016 by requiring increased fuel efficiency standards of automobile manufacturers. The program combines the control of smog, soot, and GHG emissions with requirements for greater numbers of zero-emission vehicles. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

The electricity provider for Livingston, Pacific Gas and Electric Company (PG&E), is subject to California's Renewables Portfolio Standard (RPS). The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020, which will have the effect of reducing GHG emissions generated during energy production. For example, from 2005 to 2012, PG&E increased its purchase of renewable source-generated electricity to levels that currently account for just over half of its total power mix.

The change in land use from agriculture to a cannabis business park or any alternative use allowed per the Zoning Ordinance and consistent with the General Plan represents a minor change in use and corresponding GHG emissions and was anticipated by the Livingston General Plan for this area. With the implementation of renewable energy sources and reductions in emissions from Statewide regulations, the Project's change in land use will not significantly alter these continued Statewide reductions. Thus, the Project's impact on GHG emissions would be less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.8b – Would the Project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

California has adopted several policies and regulations for the purpose of reducing GHG emissions. AB 32 was enacted to reduce statewide GHG emissions to 1990 levels by 2020. Therefore, the Project would not conflict with AB 32.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--	--------------------------------------	--	-------------------------------------	--------------

3.4.9 - HAZARDS AND HAZARDOUS MATERIALS

Would the Project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e. 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 or excessive noise for people residing or working in the Project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

Impact #3.4.9a – Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

During the construction of the proposed Project, the transport and use of hazardous materials may include small amounts of diesel fuels, solvents, lubricants, and automobile fluids. Workers could be exposed to these hazardous materials during the course of construction. Uses associated with a Cannabis Business Park may include the handling and disposal of hazardous waste. However, the proposed Project would have to comply with the California Division of Occupational Safety and Health Administration and the City of Livingston Municipal Code requirements that govern the transport and handling of hazardous materials. Specifically, for cannabis-related businesses, strict compliance with the California Bureau of Cannabis Control regulations would also assist with reducing any impacts to a less-than-significant level.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.9b – Would the Project 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?

See Section #3.4.9a.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.9c – Would the Project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no schools within one-quarter mile of the Project site. The nearest school is Yamato Colony Elementary School which is approximately one-half mile away.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.9d – Would the Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The Project is not located on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.9e – Would 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 result in a safety hazard or excessive noise for people residing or working in the Project area?

The Project site is not within an airport land use plan and is not located within two miles of an airport. The nearest airport is Castle Air Force Base that is approximately seven and a half miles away.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.9f – Would the Project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

The proposed Project will not inhibit the ability of local roadways to continue to accommodate emergency response and evacuation activities. The proposed TSM will include on-site private roads with a locked security perimeter gate. The Applicant would be required to include a Knox Box to provide first responders with on-site access.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.9g – Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Surrounding land uses in the vicinity of the proposed Project site are primarily agricultural and are not subject to high levels of risk from wildland fires. CalFire provides fire, rescue, and emergency medical response service to the City of Livingston through an agreement with Merced County and the City. According to the CalFire Fire Threat Map, the Project site is not located within an area that's considered to be an extreme, very high, high, or moderate fire threat area.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
3.4.10 - HYDROLOGY AND WATER QUALITY				
Would the Project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would?				
i. Result in substantial erosion or siltation on- or offsite;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion**Impact #3.4.10a – Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?**

Development of the proposed Project site as well as commercial operations would have to comply with the City of Livingston regulations for runoff of stormwater which may result in sediment violating water quality standards. At the time of development, the Project proponents will be required to submit a Notice of Intent and Storm Water Pollution Prevention Plan (SWPPP) to the Regional Water Quality Control Board to obtain a National Pollutant Discharge Elimination System (NPDES) General Construction Permit (See MM GEO-1). As authorized by the Clean Water Act (CWA), the NPDES Permit Program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The SWPPP will include Best Management Practices to control erosion and siltation in order to prevent water quality degradation. Implementation of an approved SWPPP and required compliance with the City of Livingston's stormwater standards, which include inspections and enforcement, will prevent violation of water quality standards or waste discharge requirements.

MITIGATION MEASURE(S)

Implement MM GEO-1.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.10b – Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

Livingston is a part of the Merced Subbasin. There are three groundwater aquifers in the Merced Subbasin; an unconfined aquifer, a confined aquifer, and an aquifer in the consolidated rocks (Environment, 2013). The City provides water supplies to its residents; the sole source of water supply for the City is groundwater, which is pumped from eight groundwater wells and a one-million-gallon potable water storage tank at Burgundy and Chardonnay. Groundwater is recharged from the following sources: Merced River, percolation from the Merced Irrigation District canals, stormwater detention basins, percolation from treated wastewater disposal facilities, and from percolation attributed to excess applied surface irrigation water (Environment, 2013). According to the City of Livingston, in January 2008, these wells had a current supply capacity of approximately 10.8 million gallons per day. The firm capacity, which is defined as the capacity less one of the largest wells being out of service, was approximately 8.9 million gallons per day. In August 2008, with the integration of Well #16 into the City's water system, the supply capacity increased another 1.73 million gallons per day (mgd). Well 17, constructed in 2017, has a design capacity of 2,000 gpm.

According to the 2007 Water Distribution System Study and Master Plan, adequate long-term groundwater supply exists for buildout of the City of Livingston's sphere of influence, though improvement of the production, storage, distribution, and treatment systems will be needed to take advantage of this resource (Carollo, 2007). The City spent approximately \$3.2 million during the 2008 fiscal year to install 18,936 feet of new water line, of which \$1,906,700 of the cost of the improvements was paid for by a California Proposition 13 water grant. In addition to replacing aging water lines, the City has been actively installing water meters to promote water conservation and ensure that all residential, commercial, and industrial customers are billed the correct amount for the water they are using. Over the past two years over 1,600 water meters have been installed. Today, the City meters 97 percent of all its water accounts. Beyond water meters, the City has been requiring commercial customers, industrial customers, multi-family residential customers, and other users to install backflow prevention devices to protect the water system from contamination. Future water system improvements are guided by the City's Water Distribution System Master Plan approved by the City Council in May 2008. Additionally, under the authority of the 2014 Sustainable Groundwater Management Act (SGMA), Groundwater Sustainability Agencies (GSA) in Merced County are actively developing Groundwater Sustainability Plans (GSP) to manage Merced County groundwater basins. The GSP was developed for the Merced Subbasin and was adopted in 2019 (SGMA, 2019).

The proposed Project includes an additional well in order to prevent the depletion of groundwater from the current outlets in the City for cannabis cultivation. The Project will be connected to the City's waterlines for the businesses that will occupy the Project area, solely for restrooms and other related facilities.

Based on available data on water usage by land use type, light industrial warehousing and distribution uses are estimated to have an annual water usage of 0.07 acre-feet per year per 1,000 square feet (City of Santa Barbara, 2009). If all 20 commercial cannabis licenses were for distribution only, the estimated water usage would be 67.08 acre-feet per year (22 acres x 43,560 square feet per acre x .07 acre-feet per year/1,000 sq. ft.). Light manufacturing uses are estimated to have an annual water usage of 0.15 acre-feet per year per 1,000 sq. ft. If all 20 commercial cannabis licenses were for manufacturing only, the estimated water usage would be 143.75 acre-feet per year (22 acres x 43,560 square feet per acre x 0.15 acre-feet per year/1,000 sq. ft.) If production were to occur six months of the year, water consumption would be halved.

Water usage for indoor cultivation of cannabis can vary widely based on many factors (type of watering techniques, crop rotation, species, etc.). In order to calculate an estimated amount of water consumption for this proposed Project, certain assumptions were used based on available data. CalNORML estimates one gram of cannabis requires one gallon of water to produce (California NORML, 2015). Indoor cannabis cultivation is estimated to produce 40 grams per sq. ft. per harvest (BOTEC Analysis Corporation). Available data suggest the total number of harvests per year ranges from one to 12, with most sources using four harvests as a reasonable estimate (Caulkins, 2010).

Using these assumptions, 160 grams of cannabis would be produced per sq. ft. per year. Assuming a total of 958,000 sq. ft. of cultivation, 153,280,000 grams of cannabis could be produced per year. This would equate to 153,280,000 gallons of water per year if all 958,000 sq. ft. were permitted as cultivation only.

There is no significant water usage for testing laboratories or retail businesses, apart from that customary for these types of non-cannabis usage (restrooms, sinks, etc.). Conservatively, water usage for testing laboratories would be 2.06 acre-feet (100,000 sq. ft./43,560 x 0.9 acre-feet per acre per year). Retail businesses would use 2.15 acre-feet (55,000 sq. ft./43,560 x 1.7 acre-feet per acre). The maximum estimated water use for both testing laboratories and retail businesses would be 4.21 acre-feet per year.

It is reasonable to assume there would be a mix of cultivation, distribution, manufacturing, retail and testing laboratories. In order to accurately estimate the total water demand for the proposed Project, the following combination of facilities was conservatively used:

- Seven commercial cannabis licenses would be used for cultivation
- Four for manufacturing
- Four for distribution
- Five testing laboratories (100,000 sq. ft.)

Table 3.4.10-1
Project Estimated Water Demand

License Type	Number of Licenses	Water Demand per License (af/yr)	Total Water Demand (af/yr)
Cultivation	7	21.4	149.8
Manufacturing	4	6.5	26
Distribution	4	3.1	12.4
Testing Laboratories	5	0.4	2
Total	20	31.4	190.2

As noted in Table 3.4.10-1, the estimated maximum total water demand of the Project is approximately 190.2 acre-feet per year. A rough estimate of the proposed Project's potential wastewater production was calculated by using the proposed domestic water demand of 46.9 acre/ft per year, resulting in 0.0419 mgd. This would not substantially affect the treatment capacity at the existing WWTP because the plant would have adequate capacity to serve Project demand.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.10c(i) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on-or offsite?

The Project would include construction of a drainage basin (Lot A). The existing canal on-site would be piped and undergrounded. In accordance with the NPDES Stormwater Program, and as described previously, Mitigation Measure GEO – 1 ensures the Project will comply with existing regulatory requirements to prepare a SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The specific controls are subject to the review and approval by the RWQCB and are an existing regulatory requirement. Implementation of Mitigation Measure GEO - 1 would ensure that the proposed Project would have a less than significant impact.

As noted in Impact 3.4.4(f), the Project requires an abandonment and relocation of an irrigation canal. Therefore, Mitigation Measure BIO-9 requires a delineation of the drainage and determination of jurisdiction prior to the issuance of grading permits. If the drainage is jurisdictional, additional permitting with the USACE, RWQCB, and/or CDFW is also required prior to construction activities to maintain adequate water quality standards. With implementation of BIO-9, impacts of the Project to water quality would be less than significant

In addition, the Project would be required to develop and implement a SWPPP. Although this Project would result in the addition of impervious surfaces, it would not be in a manner which would result in substantial erosion or siltation on- or offsite. Therefore, impacts would be less than significant.

MITIGATION MEASURE(S)

Implement BIO-9 and GEO-1.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.10c(ii) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

See Impact 3.4.10 c(i).

MITIGATION MEASURE(S)

Implement BIO-9 and GEO-1.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.10c(iii) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would 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?

See Impact 3.4.10 c(i).

MITIGATION MEASURE(S)

Implement BIO-9 and GEO-1.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.10c(iv) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

See Impact 3.4.10 c(i).

MITIGATION MEASURE(S)

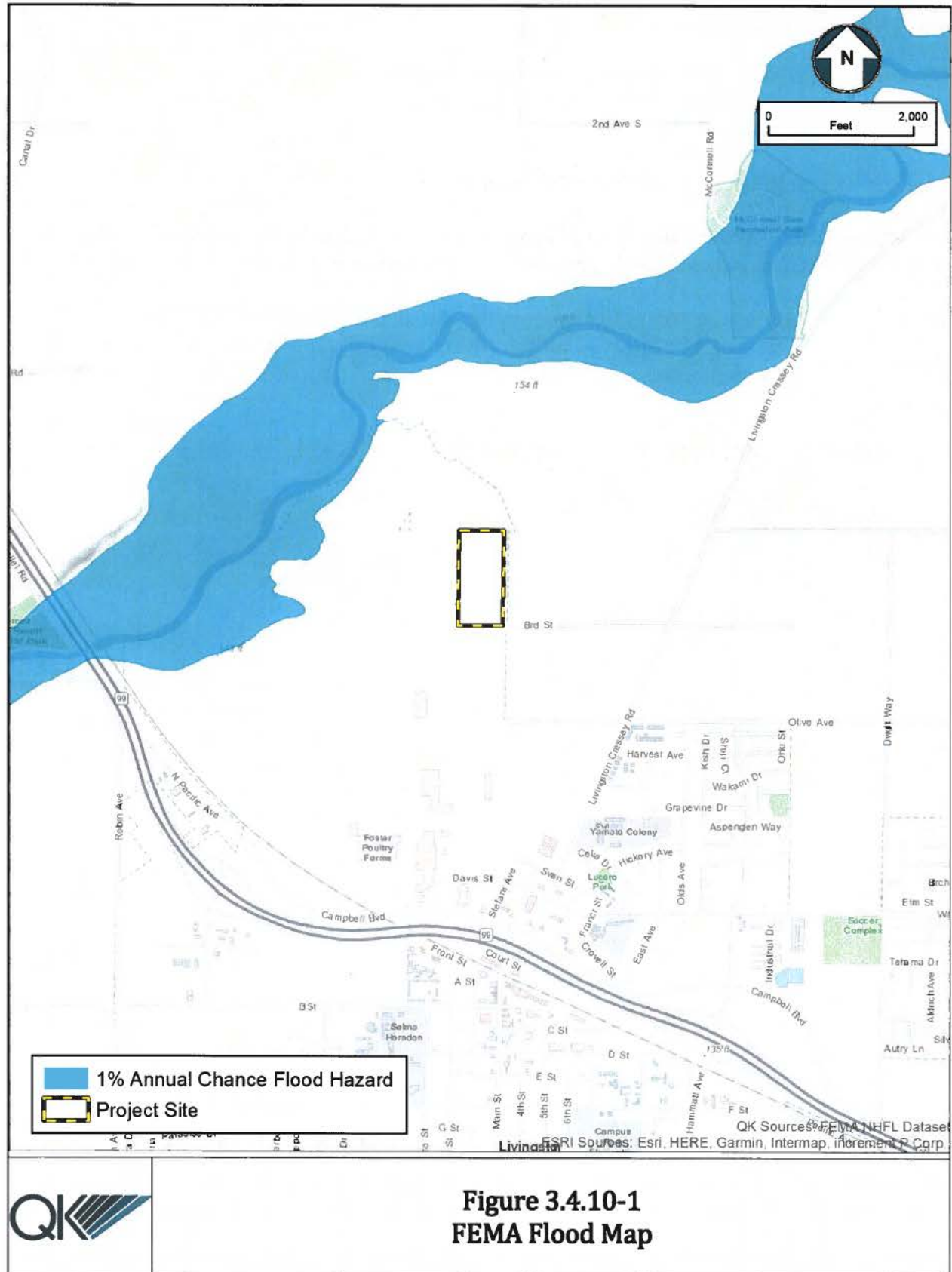
Implement BIO-9 and GEO-1.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.10d – Would the Project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?

The Project site is not located in a flood hazard, tsunami, or a seiche zone. Since there are no known faults within the immediate area, ground rupture from surface faulting should not be a problem (Figure 3.4.10-1). Therefore, there is no risk of the release of pollutants due to inundation.



MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.10e – Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

With construction of the storm drainage infrastructure at the time of future development and implementation of an approved and permitted SWPPP, the Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--	--------------------------------------	--	-------------------------------------	--------------

3.4.11 - LAND USE AND PLANNING

Would the Project:

- | | | | | | |
|----|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. | Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. | Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

Impact #3.4.11a – Would the Project physically divide an established community?

For CEQA purposes, to “physically divide” can be defined as to create physical barriers that change the connectivity between areas of a community in which people are separated from one area to another. Connectivity is often provided by roadways, pedestrian paths, and bicycle paths. Some factors that would contribute to dividing or separating a community include:

- Construction of major highways or roadways
- Closing bridges or roadways
- Construction of utility transmission lines
- Construction of storm channels
- Dams and other waterway diversions

The proposed Project, as described in the Project Description, would not divide a community. In addition, the Project would consist of piping and undergrounding the on-site portion of the canal, thereby eliminating a physical barrier that’s currently dividing the site.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.11b – Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Page 3-3 of the General Plan identifies the reserve classification as “not as anticipated to develop within the 2020 timeframe.” The 2020 timeframe is now upon the City. There are few industrial designated properties within city limits available for development. (7c) states that “Lands designated as Reserve may not be developed without first amending the General Plan, demonstrating a need for development in these areas, and demonstrating that urban services can be provided without adversely affecting the development feasibility of lands currently planned and zoned for urban uses.” After consultation with the City Planner, it was determined that a General Plan Amendment would be appropriate to designate additional land in the City limits for expanded industrial activities. Any future uses associated with buildout of the proposed entitlements would be consistent with the General Plan and the Zoning Ordinance as amended.

Therefore, it would not conflict with any land use plan, policy, or regulation that would create a significant environmental impact.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--	--------------------------------------	--	-------------------------------------	--------------

3.4.12 - MINERAL RESOURCES

Would the Project:

- | | | | | | |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. | Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. | Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

Impact #3.4.12a – Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

According to the City of Livingston 1999 General Plan, “There are no significant mineral resources or mining operations in Livingston.” Therefore, implementation of this Project would not result in the loss of availability of known mineral resources of regional or statewide value.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.12b – Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The Project site is not located on a locally important mineral resource recovery site.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--	--------------------------------------	--	-------------------------------------	--------------

3.4.13 - NOISE

Would the Project result in:

- | | | | | | |
|----|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. | Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. | Generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. | For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

Impact #3.4.13a – Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The proposed Project would cause temporary noise during the construction period. Site preparation, construction, trenching, and paving activities are expected to use the following types of equipment: semi-truck (for delivery of equipment), truck-mounted crane, paving rollers, forklift, and miscellaneous equipment including air compressors. The number and type of equipment used during project activities will vary from day to day.

Pursuant to the City of Livingston 1999 General Plan, the generally accepted maximum level is 65 dBA around residential and a maximum of 75 dBA between the daytime hours of 7:00 a.m. to 10:00 p.m. There are no sensitive receptors within the nearby vicinity. The closest residence is approximately 1,100 feet away. According to the Practical Spreading Model, to determine the decrease in intensity of noise away from the source, attenuation occurs at a rate of 4.5 dBA per doubling of distance. For example, if a piece of equipment has a typical sound level of 81 dBA at 50 feet away, then at 100 feet away, the typical sound level would equal 76.5 dBA.

Table 3.4.13-1
Noise Levels Generated by Typical Construction Equipment from 50 and 100 feet away

Type of Equipment	Typical Sound Level (dBA) at 50 feet	4.5 dBA per doubling of distance at 100 ft	City Maximum Standards Exceeded?
Heavy truck idling	72	59	No
Air Compressor	81	68	No
Crane	81	68	No
Diesel Forklift (Gas)	83	70	No

Sources: US Department of Transportation, 2006.

According to Table 3.4.13-1, at 100 feet away, the sound levels from construction equipment would not violate any City noise standards. Therefore, at 1,100 feet away, the nearest sensitive receptor would not be impacted by noise.

On a long-term basis, operational noise levels would be similar to the noises generated from other M-1 industrial uses in the nearby and distant vicinity. It's expected that all activities associated with the buildout of the proposed entitlements would be housed indoors which would assist with mitigating the potential of a noise increase for the immediate area. Although the operational period may bring an increase in noise to the immediate area, it's not expected it would be at a level that would violate any noise standards.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.13b – Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

Ground-borne vibration will occur as a result of construction activities. According to the US Department of Transportation, Federal Railroad Administration, vibration is sound radiated through the ground. The rumbling sound caused by the vibration is called ground-borne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB). The background vibration velocity level in residential areas is usually around 50 VdB. The general human response to different levels of ground-borne vibration velocity levels is described in Table 3.4.13-2.

Table 3.4.13-2
Human Response to Different Levels of Ground-borne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.
100VdB	General threshold where minor damage can occur to fragile buildings.

Source: US Department of Transportation, Federal Railroad Administration, 2005.

The vibration velocity level threshold of perception for humans is approximately 65 VdB according to the table. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people.

Typical outdoor sources of perceptible ground-borne vibration are construction equipment and traffic on rough roads. For example, if a roadway is smooth, the ground-borne vibration from traffic is rarely perceptible. Table 3.4.13-3 lists the different types of construction equipment along with the corresponding VdB for each.

Table 3.4.13-3
Different Levels of Ground-borne Vibration (25 Feet from Equipment)

Vibration Velocity Level	Equipment Type
104 VdB	Pile Driver (impact), typical
93 VdB	Pile Driver (sonic), typical
94 VdB	Vibratory roller
87 VdB	Large bulldozer
87 VdB	Caisson drilling
86 VdB	Loaded trucks
79 VdB	Jackhammer
58 VdB	Small bulldozer

Source: Federal Transit Administration, 2006.

Typically, ground-borne vibration generated by construction activity attenuates rapidly with distance from the source of the vibration. Therefore, vibration issues are generally confined to distances of less than 500 feet (US Department of Transportation, Federal Railroad Administration, 2005). Potential sources of vibration during construction of the proposed Project will include the transportation of equipment to the site and the operation of equipment. Construction would be temporary and short-term in nature. There are no sensitive receptors in the immediate vicinity.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.13c – Would the Project result in for a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

The Project site is not within an airport land use plan and is not located within two miles of an airport. The nearest airport is Castle Air Force Base which is approximately seven and a half miles away.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--	--------------------------------------	--	-------------------------------------	--------------

3.4.14 - POPULATION AND HOUSING

Would the Project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Induce substantial population unplanned 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

Impact #3.4.14a – Would the Project induce substantial population unplanned 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)?

Population growth is normally associated with adding new housing, infrastructure, or transportation corridors either to an existing or newly proposed area. As previously discussed, the Project is zoned for Light Industrial uses. As such, the Project would generate job growth for the City, however, it's expected that a majority of job seekers will be from within the City or from the immediate surrounding area. The Project itself would not induce substantial unplanned population growth.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.14b – Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The Project would ultimately result in the construction of a Cannabis Business Park or other related uses as permitted under the Zoning Ordinance. There are no existing housing structures on-site that would be displaced by the implementation of this Project.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--------------------------------------	--	-------------------------------------	--------------

3.4.15 - PUBLIC SERVICES

Would the Project:

- a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services:

i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Impact #3.4.15a(i) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services - Fire Protection?

CalFire provides fire, rescue, and emergency medical response services to the City of Livingston. According to the City's website, the Fire Department has one paid full-time firefighter on-site which is supplemented by volunteer firefighters. The Merced County Fire Department has a mutual aid agreement with the City of Atwater to provide assistance to Livingston in the event of an emergency that extends beyond the City's service capabilities. The proposed Project site would not substantially impact the county's response time in addressing calls for assistance. At the time of future development, structures will be required to install appropriate fire suppression systems in accordance with the Uniform Fire Code and any other local ordinances. During the building permit review, each structure will be required to demonstrate fire flow requirements, or be subject to state and federal codes,

which provide for alternate fire safety provisions. Additionally, the building permit applicant will be required to pay impact fees prior to the issuance of occupancy permits to offset potential Project-induced fire costs. The amount of the mitigation fee will be determined by the fee schedule in effect on the date of building permit issuance. The Project would also be required to be annexed into a Community Facilities District to pay its fair share of operating costs of public services.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.15a(ii) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Police Protection?

The Project site would be served by the Livingston Police Department which is approximately 1.7-miles away. The dispatch center is operated around the clock, 365 days a year.

The Final Programmatic Environmental Impact Report (PEIR) for CalCannabis Cultivation Licensing (California Department of Food and Agriculture, 2017), concluded a less-than-significant impact to police protection. The PEIR determination was based on literature research on an elevated risk of crime associated with cannabis cultivation activity, including a Colorado news story that concluded licensed cannabis facilities in Denver, experience six and a half times more burglaries than liquor stores (California Department of Food and Agriculture, 2017). It was noted that under existing conditions, police throughout the state spent considerable time and resources dealing with cannabis cultivation-related issues, such as investigating and abating unpermitted grow houses and detecting and eradicating unpermitted trespass grows on state and federal lands. The PEIR went on to cite risk factors such as the high retail value of cannabis and the dealing in cash transactions due to federal prohibitions placed on insurance requirements of banking institutions.

The PEIR also cited reported armed robberies committed at cannabis grow operations, including an incident that occurred in Fresno County in 2014. The PEIR stated that many of these incidents were at unpermitted/illegal cultivation operations and the security protocols used were not sanctioned under the CalCannabis Cultivation Program. Further, the PEIR cited two reports that concluded that laws allowing for medicinal cannabis were not associated with increased crime rates and may actually reduce incidents of homicide and assault. The results of these reports also indicated that surveillance systems and private

security may act as an effective deterrent to crime (California Department of Food and Agriculture, 2017).

The PEIR determined that “the information contained in the literature and from available news stories suggests that cannabis cultivation is potentially at elevated risk for crime; however, an elevated risk of crime is not a significant impact under CEQA unless it can be tied to a physical impact on the environment.” The PEIR concluded that many existing cannabis operations would likely seek licensing, and there was reason to believe that implementation of the proposed program may decrease pressure on police protection resources.

With the proposed program, the PEIR concluded it was reasonable to assume that some of the cultivators not currently operating in compliance with local requirements would apply for local approval and become lawful businesses, reducing the enforcement needs for these operations. With a legal pathway for cannabis cultivation and an increased supply of legally grown cannabis, there also may be less opportunity or incentive for criminal organizations to introduce a black market product into the supply chain, thus decreasing the need for police resources to address these issues. The track-and-trace system, by creating a mechanism for tracing cannabis products, would further impede interference by the black market in lawful cannabis commerce.

In areas of California that would experience a large number of new cannabis cultivation businesses under the proposed program, it is possible that existing police protection services could be strained to provide resources beyond their existing capacities. However, it was noted that there was not enough information available, nor could it speculate, as to where such growth might trigger the need for new or additional police facilities (California Department of Food and Agriculture, 2017).

The PEIR concluded that while some crime associated with licensed cannabis cultivation activities is likely to continue, no data indicated that the proposed cannabis program would increase law enforcement needs overall compared to baseline conditions. If anything, demand may decrease due to a large number of lawful cultivators willing to coordinate and cooperate with law enforcement authorities.

Under CEQA, to create a significant environmental impact, a project must result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services. As new regulated cannabis businesses are approved in the City, the number of illegal operations will likely diminish. Crimes associated with illegal operations will be mitigated through the enforcement of the conditions of approval established under conditional use permits and should not be prevalent at the new facilities.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.15a(iii) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Schools?

This Project will not result in the need for additional school sites as there would not be an increase in new unplanned population growth for the area.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.15a(iv) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Parks?

The Project itself would not result in the need for additional parks or recreation centers as it would not result in an increase in new unplanned population growth for the area. Although the City does need several new parks and recreational facilities as stated in the Livingston Park and Recreation Master Plan, the Project will not result in population growth, and therefore will not result in the direct need for additional park facilities.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.15a(v) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for

new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Other Public Facilities?

No other public services will be impacted by implementation of the proposed Project.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--	--------------------------------------	--	-------------------------------------	--------------

3.4.16 - RECREATION

Would the Project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

Impact #3.4.16a – Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The Project, when at full buildout, would result in the development of a Cannabis Business Park. If this use is never realized, then the future buildout of the TSM would include other uses that are consistent with the City's General Plan and Zoning Ordinance. The Project would not include any new residential uses and the employees at this site are not expected to increase the use of any existing neighborhood or regional parks.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.16b – Would the Project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The Project would not include recreational facilities or require the construction or expansion of any existing recreational facilities.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--	--------------------------------------	--	-------------------------------------	--------------

3.4.17 - TRANSPORTATION AND TRAFFIC

Would the Project:

a.	Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Impact #3.4.17a – Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The proposed Project does not include any design features or uses that would conflict with a program, ordinance, or policy addressing the circulation system.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.17b – Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b)?

A Traffic Impact Study (VRPA Technologies, Inc., 2021) was prepared to analyze the potential impacts of this Project (Appendix E). To assess the impacts that the Project may have on the surrounding street and highway segments and intersections, the first step is to determine Project trip generation. The Project's trip generation was estimated based on trip

generation rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition). The Project's estimated Daily, AM peak hour, and PM peak hour trips are shown in Table 3.4.17-1. Trips associated with the Greenzone Industrial Development were derived from the High Cube Transload and Short-Term Storage (154) Land Use in the ITE Trip Generation Manual (VRPA Technologies, Inc., 2021).

**Table 3.4.17-1
Project Trip Generation**

Land Use	Quantity	Daily Trip Ends (ADT)		Weekday AM Peak Hour					Weekday PM Peak Hour				
		Rate	Volume	Rate	In: Out Split	Volume			Rate	In: Out Split	Volume		
						In	Out	Total			In	Out	Total
High Cube Transload and Short-Term Storage (154)	376,000 SF	1.339	526	0.08	77:23	23	7	30	0.10	29:71	11	27	38
Total Trip Generation						23	7	30			11	27	38

Source: Generation factors from ITE Trip Generation Manual, 10th Edition.

Trip ends are one-way traffic movements, entering or leaving.

The numbers in parenthesis are ITE land use codes.

Project trip distribution is based upon engineering judgment, prevailing traffic patterns in the study area, complementary land uses, major routes, population centers, and customer base.

The access/egress from the site will be located along Bird Street, approximately one-half mile west of the Bird Street and Livingston Cressey Road intersection. The site map includes two driveways or access/egress points from Bird Street.

Project traffic as shown in Table 3.4.17-1 was distributed to the roadway system using the trip distribution percentages.

Near-Term Traffic Conditions

A Near-Term scenario was analyzed to include the year 2022 traffic (estimated Project Opening Day) plus traffic generated by other projects approved or being processed in the study area. Traffic conditions in the year 2022 were estimated by using a 1.26 percent per year growth factor for background (ambient) growth along the City of Livingston facilities. This growth rate is consistent with MCAG's 2018 Regional Transportation Plan/Sustainable Communities Strategies Environmental Impact Report.

Cumulative Year 2042 Without Project Traffic Conditions

The impacts of the Project were analyzed considering future traffic conditions, approximately 20 years after the assumed opening day of the Project, or in this case the year

2042. The levels of traffic expected in 2042 relate to the cumulative effect of traffic increases resulting from the implementation of the general plans of local agencies, including the City of Livingston and Merced County. Traffic conditions in the year 2042 were estimated using a 1.26 percent per year growth factor for background (ambient) growth, which is consistent with MCAG's 2018 Regional Transportation Plan/Sustainable Communities Strategies Environmental Impact Report.

Cumulative Year 2042 Plus Project Traffic Conditions

The addition of Project trips, which were distributed to the roadway system using the trip distribution percentages shown in Figure 3-1 of the Traffic Impact Study, were added to Cumulative Year 2042 Without Project Traffic Volumes.

RESULTS

Results Shown in Table 3.4.17-2 of the analysis show that the Project will cause or contribute to an unacceptable LOS at all of the study intersections with exception of Livingston Cressey Road at Bird Street when comparing the Existing and Existing Plus Project scenarios and the Cumulative Year 2042 Without Project and Cumulative Year 2042 Plus Project scenarios.

**Table 3.4.17-2
Intersection Operations**

Intersection	Control	Target LOS	Peak Hour	Existing Plus Project		Near-Term Plus Project		Cumulative Year 2042 Without Project		Cumulative Year 2042 Plus Project	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Livingston Cressey Road / Bird Street	One- Way Stop	C	AM	10.3	B	10.4	B	10.2	B	14.8	B
			PM	10.9	B	11.0	B	10.6	B	11.6	B
Main Street / Campbell Boulevard	All- Way Stop	C	AM	41.0	E+	68.1	F++	149.4	F++	159.3	F++
			PM	14.2	B	17.6	C	35.5	E++	36.8	E++
Winton Parkway/SR 99 NB Ramps	All- Way Stop	C	AM	19.2	C	21.4	C	57.5	F++	58.4	F++
			PM	22.4	C	26.1	D+	74.9	F++	75.3	F++
Winton Parkway/SR99 SB Ramps	All- Way Stop	C	AM	170.6	F++	197.2	F++	371.5	F++	—*	F++
			PM	191.9	F++	219.5	F++	—*	F++	—*	F++
Hammatt Avenue/SR99 NB Ramps	All- Way Stop	C	AM	37.7	E++	136.0	F++	226.3	F++	277.6	F++
			PM	27.2	D++	104.8	F++	193.6	F++	196.1	F++

Intersection	Control	Target LOS	Peak Hour	Existing Plus Project		Near-Term Plus Project		Cumulative Year 2042 Without Project		Cumulative Year 2042 Plus Project	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Hammatt Avenue/SR99 SB Ramps	All- Way stop	C	AM	23.6	C	68.1	F++	140.5	F++	140.5	F++
			PM	20.0	C	43.8	E++	91.0	F++	91.2	F++

Source: (VRPA Technologies, Inc., 2021)

DELAY is measures in seconds

LOS=Level of Service/BOLD denotes LOS standard has been exceeded

For All-Way Stop intersections, delay results show the average for the entire intersection.

For one-way stop controlled intersections, delay results show the delay for the worst movement.

+ Does not meet peak hour signal warrants

++ Meets peak hour signal warrants

*Delay Exceeds 300 seconds

Queuing analysis was completed using Section 400 of Caltrans' Highway Design Manual. Results of the analysis shown below in Table 3.4.17-3 that all of the existing storage pocket lengths at the Campbell Boulevard at Main Street intersection will provide adequate storage for future year traffic volumes.

Results of the Roadway Segment Capacity Analysis in Table 3.4.17-4 show that the Project will cause or contribute to an unacceptable LOS at study roadway segments (Main Street between Bird Street and Olive Avenue) when comparing the Existing and Existing Plus Project scenarios and the Cumulative Year 2042 Without Project and Cumulative Year 2042 Plus Project scenarios.

**Table 3.4.17-3
Queuing Operations**

Intersection	Existing Queue Storage Length (ft)		Existing Plus Project		Near-Term Plus Project		Cumulative Year 2042 Without Project		Cumulative Year 2042 Plus Project	
			AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue
Main Street / Campbell Boulevard	NB Left	150	43	24	45	25	58	33	58	33
	SB Left	100	54	53	70	68	84	78	86	83
	EB Left	200	78	78	84	85	103	107	107	108
	WB Left	150	95	63	109	76	138	94	138	94
	WB Right	75	57	37	69	52	81	60	85	62
Winton Parkway / SR 99 NB Ramps	NB Left	175	319	388	333	406	428	521	428	521
Winton Parkway / SR 99 SB Ramps	SB Left	200	1	13	1	13	1	17	1	17
Hammatt Avenue/ SR 99 NB Ramps	NB Left	150	131	92	187	125	225	153	225	153
Hammatt Avenue / SR 99 SB Ramps	SB Left	125	128	146	213	218	249	256	250	260

Source: (VRPA Technologies, Inc., 2021)

**Table 3.4.17-4
Segment Operations**

Street Segment	Segment Description	Direction	Target LOS	Peak Hour	Existing Plus Project		Near-Term Plus Project		Cumulative Year 2042 Without Project		Cumulative Year 2042 Plus Project	
					Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS
Bird Street												
Livingston	2 Lanes	EB	C	AM	9	C	9	C	3	C	10	C
Cressey Road	Undivided	WB		PM	35	C	35	C	11	C	38	C
to Project	Driveway			AM	29	C	29	C	8	C	31	C
				PM	319	C	19	C	11	C	22	C
Main Street												
Bird Street to	2 Lanes	NB	C	AM	90	C	92	C	91	C	113	C
Olive Avenue	Undivided	SB		PM	77	C	80	C	89	C	100	C
				AM	86	C	89	C	105	C	112	C
				PM	124	C	127	C	131	C	156	C
Olive Avenue	4 Lanes	NB	C	AM	424	C	474	C	577	C	594	C
to Campbell	Undivided	SB		PM	315	C	366	C	448	C	457	C
Boulevard				AM	455	C	505	C	633	C	638	C
				PM	358	C	411	C	491	C	511	C

Source: (VRPA Technologies, Inc., 2021)

LOS = Level of Service / BOLD denotes LOS standard has been exceeded

In order to mitigate the Project's impacts, the Project would be required to build improvements that are identified under the 'Existing Plus Project' condition to improve identified LOS deficiencies. The Project will be required to contribute a fair share towards the costs of improvements that are identified for the Cumulative Year 2042 scenarios.

MITIGATION MEASURE(S)

MM TRA-1: The applicant or developer shall be responsible for the following improvements:

Intersections:**Main Street at Campbell Boulevard**

- Near-Term Plus Project scenario:
 - Install traffic signal
- Cumulative Year 2042 Plus Project scenario:
 - Install traffic signal
 - Widen the westbound approach to one left turn lane, one through lane, and one right turn lane (adding one right turn lane)

Winton Parkway at SR 99 NB Ramps

- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the southbound approach to one through lane and one right turn lane (adding one right turn lane)

Winton Parkway at SR 99 SB Ramps

- Existing Plus Project and Near-Term Plus Project scenario:
 - Install Traffic Signal
 - Widen the northbound approach to one through lane and one right turn lane (adding one right turn lane)
 - Widen the eastbound approach to one left turn lane and one right turn lane (adding one left turn lane)
- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the northbound approach to one through lane and one right turn lane (adding one right turn lane)
 - Widen the eastbound approach to one left turn lane and two right turn lane (adding one left turn lane and one right turn lane)

Hammatt Avenue at SR 99 NB Ramps

- Existing Plus Project scenario:
 - Install Traffic Signal

- Near-Term Plus Project scenario:
 - Install Traffic Signal
 - Widen the westbound approach to one left-through lane and two right turn lanes (adding one right turn lane)
- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the southbound approach to one through lane and one right turn lane (adding one right turn lane)
 - Widen the westbound approach to one left-through lane and two right turn lanes (adding one right lane)

Hammatt Avenue at SR 99 SB Ramps

- Near-Term Plus Project scenario:
 - Install Traffic Signal
- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the northbound approach to one through lane and one right lane (adding one right turn lane)

The improvements identified above for the Existing Plus Project, Near-Term Plus Project, and Cumulative Year 2042 Plus Project scenarios are sufficient to meet the City of Livingston's acceptable LOS standard of 'C'.

MM TRA-2: The applicant or developer shall be required to contribute a fair share towards the costs of improvements that are identified for the Cumulative Year 2042 scenarios. The intent of determining the equitable responsibility for the improvements identified above for the Cumulative Year 2042 scenarios, is to provide a starting point for early discussions to address traffic mitigation equitability and to calculate the equitable share for mitigating traffic impacts.

The formula used to calculate the equitable share responsibility to the study area is as follows:

Equitable Share = (Project Trips)/(Future Year Plus Approved Project Traffic – Existing Traffic)

Equitable Share Responsibility

INTERSECTION	PEAK HOUR	EXISTING	PROJECT TRIPS	CUMULATIVE YEAR 2042 PLUS PROJECT	FAIR SHARE PERCENTAGE
Main Street / Campbell Boulevard	AM	1,189	22	1,701	4.3%
	PM	946	28	1,396	6.2%
Winton Parkway / SR 99 NB Ramps	AM	1,284	4	1,727	0.9%
	PM	1,243	6	1,675	1.4%
	AM	1,711	3	2,301	0.5%

Winton Parkway / SR 99 SB Ramps	PM	1,727	2	2,323	0.3%
Hammatt Avenue / SR 99 NB Ramps	AM	1,322	6	2,208	0.7%
	PM	1,262	7	2,131	0.8%
Hammatt Avenue / SR 99 SB Ramps	AM	1,160	1	1,873	0.1%
	PM	1,236	5	2,010	0.6%

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.17c – Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Project does not include any geometric design features or incompatible uses that would substantially increase hazards.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.17d – Would the Project result in inadequate emergency access?

The Project does not include any design features that would result in inadequate emergency access.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
--------------------------------------	--	-------------------------------------	--------------

3.4.18 - TRIBAL CULTURAL RESOURCES

Would the Project:

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

☐☒☐☐☐☒☐☐

Discussion

Impact #3.4.18a(i) – Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

A cultural records search through the Central California Information Center (CCIC) of the California Historical Resources Information System was conducted on August 12, 2019, to

identify areas previously surveyed and identify known cultural resources present within or in close proximity to the Project area. The response from the CCIC stated that there were no prehistoric or historic-era archaeological resources reported. The CCIC records search also determined that there are no known resources to be of value to local cultural groups.

As previously discussed in Impact 3.4-5 a-b, the subject site is not known to contain any tribal cultural resources (TCRs). As further noted, with respect to archaeological resources and human remains that may be present in areas where there would be some ground disturbance, mitigation measures set forth in the section would be implemented to ensure that should resources be encountered, they would be protected from damage. Therefore, while no TCRs are expected to be affected by the proposed Project, the mitigation measures set forth in Section 3.4 5 - *Cultural Resources* as well as within this section, would further ensure that any resources encountered would not be adversely affected.

Although construction and operation would occur on previously disturbed land, unknown historical resources may be discovered during ground-disturbing activities. In order to account for unanticipated discoveries and the potential to impact previously undocumented or unknown resources, the following mitigation measures are recommended. With the implementation of MM CUL-1 through MM CUL-2, impacts under this criterion would be less than significant with mitigation.

MITIGATION MEASURE(S)

Implementation of CUL-1 and CUL-2.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.18a(ii) – Would the Project 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 a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in Subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Under AB 52 requirements, no local tribes have requested to be consulted for input on future City projects. The CCIC records search determined that there have been no formally reported resources to be of value present in the Project area.

Per SB 18 requirements, the City of Livingston consulted with the NAHC to obtain a list of tribes culturally-affiliated with the Project area. The NAHC responded back on January 20, 2022 with a list of 6 tribes with affiliation to the Project area. The City sent consultation

request letters to the Dumna Wo-Wah tribe on December 20, 2021, and to the remainder of the tribes on January 21, 2022 (see Appendix F). During the mandated 90-day timeframe, no tribes responded back requesting additional consultation on this Project.

MITIGATION MEASURE(S)

Implementation of MM CUL-1 and MM CUL-2.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated.*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
3.4.19 - UTILITIES AND SERVICE SYSTEMS				
Would the Project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Result in a determination by the wastewater treatment provider that 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Impact #3.4.19a – Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects?

Based on the water demand of the proposed Project, as detailed in Section 3.4.10, the estimated maximum total water demand of the Project is 190.2 acre-feet per year. This demand will not require the relocation or construction of new or expanded water facilities and impacts are considered less than significant.

The Wastewater Treatment Plant (WWTP) has a maximum capacity of 2.0 million gallons per day (mgd) with an average dry weather flow of approximately 1.06 mgd (City of Livingston, 2007). Based on required compliance with the Wastewater Collection System Master Plan (July 2007), the proposed Project's 22 lots will not exceed wastewater treatment requirements. A rough estimate of the proposed Project's potential wastewater production was calculated by multiplying the water demand by 1,000,000 resulting in 0.00021 mgd. This would not substantially affect the treatment capacity at the existing WWTP because the plant would have adequate capacity to serve Project demand.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*

Impact #3.4.19b – Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?

The nearest City water line to the Project site is located at the intersection of Main Street and Livingston Cressey Road and Olive Avenue, requiring the need for infrastructure to be extended to the Project site. Based on the water demand of the proposed Project, as detailed in Section 3.4.10, the estimated maximum total water demand of the Project is 190.2 acre-feet per year. This demand will not require the relocation or construction of new or expanded water facilities and impacts are considered less than significant.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*

Impact #3.4.19c – Would the Project result in a determination by the wastewater treatment provider that 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?

The Project will connect to the City's wastewater treatment plant via a connection adjacent along the Project's frontage. There would be significant capacity for the wastewater treatment provider to serve the Project.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*

Impact #3.4.19d – Would the Project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Implementation of the proposed Project would generate solid waste during potential future construction and operation of new cannabis-related businesses. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. AB 939 and Ordinance No. 2003-100 require the City to attain specific waste diversion goals. The C&D disposal facilities listed above have the available capacity to accept construction waste from potential new facilities.

Cannabis waste is considered a type of organic waste. There are three state licensing agencies that provide regulations for cannabis waste. These agencies include the Bureau of Cannabis Control, CalCannabis Cultivation Licensing, and Manufactured Cannabis Safety Branch. Based on these agency regulations, a cannabis cultivator is required to dispose of cannabis waste in one of the following methods:

1. On-premises composting of cannabis waste;
2. Collection and processing of cannabis waste by a local agency, a waste hauler franchised or contracted by a local agency, or a private waste hauler permitted by a local agency;
3. Self-haul cannabis waste to one or more of the following:
 - a. A manned, fully permitted solid waste landfill or transformation facility;
 - b. A manned, fully permitted composting facility or manned composting operation;
 - c. A manned, fully permitted in-vessel digestion facility or manned in-vessel digestion operation;
 - d. A manned, fully permitted transfer/processing facility or manned transfer/processing operation; or
 - e. A manned, fully permitted chip and grind operation or facility.
 - f. A recycling center as defined in Title 14, Section 17402.5(d) of the California Code of Regulations and that meets the following:
 - i. The cannabis waste received shall contain at least 90 percent inorganic material;
 - ii. The inorganic portion of the cannabis waste is recycled into new, reused, or reconstituted products which meet the quality standards necessary to be used in the marketplace; and
 - iii. The organic portion of the cannabis waste shall be sent to a facility or operation identified in subsection (c)(1) through (5).

4. Reintroduction of cannabis waste back into agricultural operation through on premises organic waste recycling methods, including but not limited to tilling directly into agricultural land and no-till farming.

The Mitigation Measure below requires that a cannabis-related business that generates four or more cubic yards of commercial solid waste per week, apply a combination of recycling actions to ensure waste streams are reduced.

All requests for cannabis-related businesses will require approval of a Conditional Use Permit. The CUP review process ensures compliance with all applicable land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect. As Project applications are filed, the Planning Department will evaluate each request and impose project-specific conditions of approval. Implementation of the Mitigation Measures below would ensure compliance with policies to reduce waste sent to landfills. Therefore, impacts would be less than significant with mitigation.

MITIGATION MEASURE(S)

MM UTL-1: During construction of future commercial cannabis facilities, the Project Applicant shall not store construction waste on-site for longer than the duration of the construction activity or transport any waste to any unpermitted facilities. The Project Applicant shall also reduce construction waste transported to landfills by ensuring construction and demolition waste is hauled to one of the six City-approved construction and demolition disposal facilities listed above.

MM UTL-2: In order to reduce the amount of waste generated from cannabis-related operations being taken to the landfill, the following shall be incorporated into the CUP conditions of approval for each Project:

Businesses generating four cubic yards or more of commercial solid waste per week are required to recycle and take one, or any combination, of the following actions:

- Subscribe to source-separated recycling service with a regional franchise hauler authorized to provide service for the area in which the business is located.
- Subscribe to a mixed solid waste recycling service with a regional franchise hauler authorized to provide service for the areas in which the business is located.
- Self-recycle and certify compliance.
- Undertake a combination of such measures, or such alternate measures, as may be approved by the City to reduce the amount of waste from the commercial sector being taken to a landfill.

MM UTL-3: Screened Storage. Prior to issuance of grading or building permits, the Project Applicant shall construct, adequate, segregated, on-site screened storage for collection of commercial solid waste and source-separated recyclable materials if constructing new facilities or if existing facilities do not provide such areas. The area shall be designed to be architecturally compatible with the development and shall not prevent security of the recyclables. Driveways and/or travel aisles shall provide, at a minimum, unobstructed access for collection vehicles and personnel. A sign clearly identifying all recycling/solid waste collection and loading areas and the materials accepted shall be posted adjacent to all points of direct access to the area.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated.*

Impact #3.4.19e – Would the Project comply with federal, state, and local statutes and regulations related to solid waste?

Construction and operational activities that generate solid waste are handled, transported, and disposed of in accordance with applicable federal, state, and local regulations pertaining to municipal waste. The 1989 California Integrated Waste Management Act requires jurisdictions to attain specific waste diversion goals (AB 393, 2019). In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the proposed project design. Reuse and recycling of construction debris would reduce operating expenses and save valuable landfill space. With development in accordance with the City's General Plan, solid waste will continue to be handled, transported, and disposed of according to all applicable federal, state, and local regulation pertaining to municipal waste disposal.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact.*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
3.4.20 - WILDFIRE				
Would the Project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Impact #3.4.20a – Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

The proposed Project will not inhibit the ability of local roadways to continue to accommodate emergency response and evacuation activities. The proposed TSM will include on-site private roads with a locked security perimeter gate. The Applicant would be required to include a Knox Box to provide first responders with on-site access.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.20b – Would the Project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The Project site is located on relatively flat land and is not located near any woodlands that would have the ability to create wildfires. There is little to no risk of Project occupants being exposed to pollutant concentration from a wildfire. The Project would be required to install fire suppression improvements on-site to serve the site if a fire were to ever occur.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact*.

Impact #3.4.20c – Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The Project includes the installation of fire hydrants and the construction of roadways to access each newly created parcel, however, due to the minimal nature, it's not considered to exacerbate fire risk.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*.

Impact #3.4.20d – Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The project site is relatively flat. The Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

MITIGATION MEASURE(S)

No mitigation is required.

LEVEL OF SIGNIFICANCE

The Project would have *no impact*

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

3.4.21 - MANDATORY FINDINGS OF SIGNIFICANCE

- | | | | | | |
|----|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a. | Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. | Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are significant when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. | Does the Project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Discussion

Impact #3.4.21a – Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

As evaluated in this IS/MND, the proposed Project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory. As analyzed, the proposed Project would not have the potential to

degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plants or animals. With mitigation the Project is not anticipated to eliminate important examples of the major periods of California's history or prehistory. Therefore, the Project would have a less-than-significant impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures BIO-1 through BIO-9 and CUL-1 and CUL-2.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.21b – Does the Project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a Project are significant when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)?

As described in the impact analyses in Sections 3.4.1 through 3.4.20 of this IS/MND, any potentially significant impacts of the proposed Project would be reduced to a less-than-significant level following incorporation of the mitigation measures listed in *Appendix A – Mitigation Monitoring and Reporting Program*. Projects completed in the past have also implemented mitigation as necessary. Accordingly, the proposed Project would not otherwise combine with impacts of related development to add considerably to any cumulative impacts in the region. With the implementation of mitigation, the proposed Project would not have impacts that are individually limited, but cumulatively considerable. Therefore, the Project would have a less-than-cumulatively-considerable impact with mitigation incorporated.

MITIGATION MEASURE(S)

Implementation of Mitigation Measures BIO-1 through BIO-9, CUL-1, CUL-2, GEO-1, GEO-1, TRA-1, TRA-2 and UTL-3 through UTL-3.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated*.

Impact #3.4.21c – Does the Project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

All of the Project's impacts, both direct and indirect, that are attributable to the Project were identified and mitigated to be extent feasible. As shown in *Appendix A – Mitigation Monitoring and Reporting Program*, the District has agreed to implement mitigation substantially reducing or eliminating impacts as a result of the Project. Therefore, the

proposed Project would not either directly or indirectly cause substantial adverse effects on human beings because all potentially adverse direct impacts of the proposed Project are identified as having no impact, less-than-significant impact, or less-than-significant impact with mitigation.

MITIGATION MEASURE(S)

Implementation of I Mitigation Measures BIO-1 through BIO-9, CUL-1, CUL-2, GEO-1, GEO-1, TRA-1, TRA-2 and UTL-3 through UTL-3.

LEVEL OF SIGNIFICANCE

The Project would have a *less-than-significant impact with mitigation incorporated.*

SECTION 4 - LIST OF PREPARERS

4.1 - Lead Agency

- Miguel Galvez, Contract Planner
- John Anderson, Contract City Planner
- Randy Hatch, Former Contract City Planner

4.2 - QK Inc.

- Spencer Supinger, PE, Project Manager
- Annalisa Perea, AICP, Senior Planner
- Carlos Rojas, Associate Planner
- Amber Williams, Technical Writer
- Carrie Wingert, Senior Biologist

4.3 - Subconsultants

- Geotechnical Engineering Investigation – Krazan and Associates
- Traffic Impact Study – VRPA

SECTION 5 - BIBLIOGRAPHY

Assembly Bill 32 Global Warming Solutions Act.

California Department of Food and Agriculture. (2017). *PEIR - CalCannabis Cultivation Licensing*. California Department of Forestry and Fire Protection. Fire Threat Map. Accessed January 15, 2020 from <https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>.

California Department of Fish and Wildlife (CDFW). 2019a. Biogeographic Information and Observation System (BIOS). Accessed January 15, 2020 from www.wildlife.ca.gov/data/BIOS

CDFW. 2019b. California Natural Diversity Database (CNDDDB) – Commercial version dated September 1, 2019. Accessed January 15, 2020 from <https://map.dfg.ca.gov/rarefind/view/RareFind.aspx>.

California Native Plant Society, Rare Plant Program (CNPS). 2019. *Inventory of Rare and Endangered Plants (online edition, v8-03 0.38)*. Sacramento, CA. Accessed September 2019 from <http://www.rareplants.cnps.org>.

Carollo. (2007). *City of Livingston Water Distribution System Master Plan*.

Central California Information Center of California (CCIC). Cultural Records Search. Conducted on August 12, 2019.

Environment, R. W. (2013). *Merced Integrated Regional Water Management Plan*.

Krazan & Associates, I. (2019). *Geotechnical Engineering Investigation*.

Livingston, C. o. (2019). *Livingston, California Code*. Sterling Codifiers.

Livingston General Plan, adopted December 1999 - City of Livingston Mayer, K. E., and W. F. Laudenslayer, Jr. 1988. A Guide to Wildlife Habitats of California, with online updates. State of California, Resources Agency, Department of Fish and Wildlife. Sacramento, CA 166 pp.

Merced Irrigation District. 1973. MID Water Boundary Map. Accessed January 15, 2020 from <http://www.mercedid.com/index.cfm/water/maps/>

San Joaquin Valley Air Pollution Control District (SJVAPCD). Small Project Analysis Level (SPAL). Accessed January 15, 2020 from <https://www.valleyair.org/transportation/CEQA%20Rules/SPALTables61912.pdf>

SJVAPCD. 2015. Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) San Joaquin Valley Air Pollution Control District.

- SGMA, M. (2019). *Merced Groundwater Subbasin*. Retrieved from Merced SGMA: <http://mercedsgma.org/index#overview>
- US Department of Agriculture Natural Resources Conservation Service (NRCS). 2019a. Web soil survey. Accessed September 2019 from <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>
- USDA, NRCS. 2019b. Lists of Hydric Soils. National Cooperative Soil Survey, US Department of Agriculture. Accessed January 15, 2020 from <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>
- US Fish and Wildlife Service (USFWS). 2011. Standardized Recommendation for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance, Sacramento, California.
- USFWS. 2019a. Critical Habitat Portal. Available at: <https://ecos.fws.gov/ecp/report/table/critical-habitat.html>
- USFWS. 2019b. Information for Planning and Consultation online project planning tool. Available at: <https://ecos.fws.gov/ipac/>
- USFWS. 2019c. National Wetlands Inventory Wetlands Mapper. Accessed January 15, 2020 from <https://www.fws.gov/wetlands/data/mapper.html>
- US Fish and Wildlife Service (USFWS). 1998. Recovery plan for upland species of the San Joaquin Valley, California. Region 1. Portland, OR. 319 pp.
- US Geological Survey (USGS). 2019. National Hydrography Dataset. Accessed January 15, 2020 from <https://www.usgs.gov/core-science-systems/ngp/national-hydrography>
- United States Department of Agriculture, Natural Resources Conservation Service Web Soil Survey. Accessed January 15, 2020 from <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

APPENDIX A
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Monitoring and Reporting Program

Mitigation Measure	Timeframe	Responsible Monitoring Agency	Date	Initial
MM AQ-1: Prior to issuance of grading or building permits, the developer shall provide the City with evidence from the SJVAPCD of an approved Dust Control Plan or Construction Notification form under Regulation VIII – Fugitive Dust PM ₁₀ Prohibitions. The subdivision project may be subject to other rules including Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operation). The developer will be required to carry out measures of applicable SJVAPCD Rules and Regulations as noted.	Prior to construction	Project Contractor/Lead Agency		
MM BIO-1: Within 14 days of the start of Project activities on-site and in adjacent habitat, a pre-activity survey shall be conducted by a qualified biologist knowledgeable in the identification of this species. The surveys shall cover the canal plus surrounding upland habitat within 50 feet of the canal. Pedestrian surveys achieving 100 percent visual coverage will be conducted. If a western pond turtle is found on-site, the qualified biologist may relocate the animal downstream more than 500 feet from the Project disturbance footprint.	Prior to construction	Project Contractor/Lead Agency		
MM BIO-2: Within 14 days of the start of Project activities in any specific area, a pre-activity survey shall be conducted by a qualified biologist knowledgeable in the identification of these species. The surveys shall cover the Project site plus a 500-foot buffer. Pedestrian surveys achieving 100 percent visual coverage shall be conducted. Multiple surveys are anticipated to be needed, which would be phased with the construction of the Project. If no evidence of these species is detected, no further action is required.	Prior to construction	Project Contractor/Lead Agency		
MM BIO-3: If dens/burrows that could support any of these species are discovered during the pre-activity surveys conducted under BIO MM-2, the avoidance buffers outlined below shall be established. No work would occur within these buffers unless the biologist approves and monitors the activity. San Joaquin Kit Fox <ul style="list-style-type: none">• Potential Den – 50 feet• Atypical Den – 50 feet (includes pipes and other manmade structures)• Known Den – 100 feet• Natal/Pupping Den – 500 feet American Badger Dens (occupied) <ul style="list-style-type: none">• Natal Den (February 1–July 1) – 250 feet• Non-natal Den – 50 feet Burrowing Owl (active burrows) <ul style="list-style-type: none">• April 1–October 15 – 500 feet• October 16–March 31 – 100 feet	Prior to construction	Project Contractor/Lead Agency		
MM BIO-4: The following avoidance and minimization measures shall be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the US Fish and Wildlife Service <i>Standardized Recommendations for Protection of the Endangered</i>	Prior to construction	Project Contractor/Lead Agency		

Mitigation Measure	Timeframe	Responsible Monitoring Agency	Date	Initial
<p><i>San Joaquin Kit Fox Prior to or During Ground Disturbance</i> (USFWS 2011) and apply to all three species.</p> <ul style="list-style-type: none"> • Project-related vehicles shall observe a daytime speed limit of 20 mph throughout the site in all Project areas, except on county roads and state and federal highways. Nighttime construction speed limits shall be 10 mph. • Off-road traffic outside of designated Project areas shall be prohibited. • All Project activities shall occur during daylight hours. • To prevent inadvertent entrapment of kit foxes or other animals during the construction of the Project, all excavated, steep-walled holes or trenches more than two-feet deep shall be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. • Before holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the USFWS and the CDFW shall be contacted before proceeding with the work. • In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape, or the USFWS shall be contacted for guidance. • All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes and burrowing owls before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox or burrowing owl is discovered inside a pipe, that section of pipe shall not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity until the fox or owl has escaped. • All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from a construction or Project site. • No firearms shall be allowed on the Project site, except by authorized law enforcement personnel. • No pets, such as dogs or cats, shall be permitted on the Project site. • Use of rodenticides and herbicides in Project areas shall be restricted. • A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or burrowing owl or who finds a dead, injured, or entrapped kit fox or burrowing owl. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the US Fish and Wildlife Service and California Department of Fish and Wildlife. • An employee education program shall be developed and presented to Project personnel. The program shall consist of a brief presentation by persons knowledgeable in kit fox, and burrowing owl, biology, and the legislative protections in place. The program shall include the following: a description of each species' natural history and habitat needs; a report of the occurrence of each species in the Project area; an explanation of the status of each species and its protections under federal and state laws; and a list of measures being taken to reduce impacts to each species during Project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the previously referenced people and anyone else who may enter the Project site. 				

Mitigation Measure	Timeframe	Responsible Monitoring Agency	Date	Initial
<ul style="list-style-type: none"> Upon completion of the Project, all areas subject to temporary ground disturbances (including storage and staging areas, temporary roads, pipeline corridors, etc.) shall be recontoured if necessary and revegetated to promote restoration of the area to pre-project conditions. An area subject to temporary disturbance means any area that is disturbed during the Project, but after project completion, will not be subject to further disturbance and has the potential to be revegetated. Any Project personnel who are responsible for inadvertently killing or injuring one of these species should immediately report the incident to their representative. This representative shall contact the CDFW and USFWS immediately in the case of a dead, injured, or entrapped listed animal. The Sacramento Fish and Wildlife Office and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during Project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the USFWS. 				
MM BIO-5: If Project activities must occur during the nesting season (February 15 to August 31), pre-activity nesting bird surveys shall be conducted within seven days prior to the start of construction at the construction site plus a 250-foot buffer for songbirds and a 500-foot buffer for raptors (other than Swainson's hawk). The surveys shall be phased with the construction of the Project. If no active nests are found, no further action is required, however, nests may become active at any time throughout the summer, including when construction activities are occurring. If active nests are found during the survey or at any time during the construction of the Project, an avoidance buffer ranging from 50 feet to 350 feet may be required, as determined by a qualified biologist. The avoidance buffer will remain in place until the biologist has determined that the young are no longer reliant on the nest. Work may occur within the avoidance buffer under the approval and guidance of the biologist. The biologist shall have the ability to stop construction if nesting adults show sign of distress.	Prior to construction	Project Contractor/Lead Agency		
MM BIO-6: If Project activities must occur during the nesting season (February 15 to August 31), pre-activity surveys shall be conducted for Swainson's hawk nests in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley, Swainson's Hawk Technical Advisory Committee (CDFW 2000). The surveys would be conducted on the Project site plus a half-mile buffer. To meet the minimum level of protection for the species, surveys shall be conducted during at least two survey periods. The survey will be conducted in accordance with the methodology outlined in existing protocols and shall be phased with the construction of the Project. If no Swainson's hawk nests are found, no further action is required.	Prior to construction	Project Contractor/Lead Agency		
MM BIO-7: If an active Swainson's hawk nest is discovered at any time within one-half mile of active construction, a qualified biologist will complete an assessment of the potential for current construction activities to impact the nest. The assessment will consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to the construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed and the level of nest monitoring	Prior to construction	Project Contractor/Lead Agency		

Mitigation Measure	Timeframe	Responsible Monitoring Agency	Date	Initial
<p>required. Minimally, construction activities should not occur within 100 feet of an active nest and may require monitoring if within 500 feet of an active nest. The qualified biologist should have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nest location, the sensitivity of the nesting Swainson's hawk to disturbances, and the discretion of the qualified biologist.</p>				
<p>MM BIO-8: Prior to start of construction activities, a qualified biologist shall conduct a preconstruction survey with special attention to trees and manmade structures, including a daytime inspection and a flyout inspection at dusk. The survey shall be conducted within 14 days prior to the construction activities. If no bats are detected, no further action is required.</p> <p>If bats are detected, acoustical sampling shall be conducted to identify the species present. If pallid bats, western mastiff bats, or hoary bats are identified to be roosting in the trees or structures, work shall not commence until all of the following have been implemented:</p> <ul style="list-style-type: none"> • Bats have been passively excluded from the tree or structure by progressively boarding up any entrances at night while bats are foraging away from the tree or structure. Relocation of bats may not be performed during the breeding season (March 1 to September 15). • Permanent, elevated bat houses have been installed outside of, but near the construction area, preferably in designated open space areas. Placement and height shall be determined by a qualified biologist, but the height of a bat house shall be at least 15 feet. Bat houses shall be multi-chambered. The number of bat houses required shall be dependent upon the size and number of colonies present, but at least one bat house shall be installed for each pair of bats (if occurring individually) or each colony of bats found. • If a tree or structure containing a roost for pallid, western mastiff, or hoary bats shall be removed or may lead to roost abandonment during construction, a qualified biologist shall design and determine an appropriate location for an alternate roost structure. 	Prior to construction	Project Contractor/Lead Agency		
<p>BIO-9 Prior to issuance of any grading or building permit, the applicant or developer shall submit a final Delineation report and evidence of the pertinent permits to the City of Livingston. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:</p> <ol style="list-style-type: none"> 1. Delineation of all jurisdictional features at the project site. Potential jurisdictional features within the project boundary identified in the jurisdictional delineation report may be shown in plan form. 2. If the Project has a potential to directly or indirectly impact jurisdictional aquatic resources, a formal aquatic resource delineation of these areas shall be performed by a qualified professional to determine the extent of agency jurisdiction and permits/authorizations from the appropriate regulating agencies (Central Valley Regional Water Quality Control Board (RWQCB), CDFW and US Army Corps of Engineers (USACE) shall be obtained prior to disturbance to jurisdictional features. 	Prior to issuance of grading permits	Project Contractor/Lead Agency		

Mitigation Measure	Timeframe	Responsible Monitoring Agency	Date	Initial
<p>If it is determined that canal is jurisdictional and cannot be avoided, the Project proponent shall obtain a Section 401 Waters Quality Certification from the RWQCB, a Section 404 permit from USACE and a Lake and Streambed Alteration Agreement from the CDFW, if required prior to impacting any waters.</p> <p>As part of these authorizations, compensatory mitigation may be required by the regulating agencies to offset the loss of aquatic resources. If so, and as part of the permit application process, a qualified professional shall draft a Monitoring Plan to address implementation and monitoring requirements under the permit to ensure that the Project would result in no net loss of habitat functions and values. The Plan shall contain, at a minimum, mitigation goals and objectives, mitigation location, a discussion of actions to be implemented to mitigate the impact, monitoring methods and performance criteria, extent of monitoring to be conducted, actions to be taken in the event that the mitigation is not successful, and reporting requirements. The Plan shall be approved by the appropriate regulating agencies and compensatory mitigation shall take place either on site or at an appropriate off-site location.</p> <p>3. Any material/spoils generated from project activities containing hazardous materials shall be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. Protection measures should follow project-specific criteria as developed in a Stormwater Pollution Prevention and Protection Plan (SWPPP).</p> <p>4. Equipment containing hazardous liquid materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and at least 50 feet outside the delineated boundary of jurisdictional water features.</p> <p>Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative shall be notified</p>				
<p>MM CUL-1: Although there is no recorded evidence of historic or archaeological sites within the Project area, there is the potential during Project-related excavation and construction for the discovery of these types of resources. The Applicant shall incorporate into the construction contract(s) for the Project a provision that if a potentially significant historical or archaeological resource is encountered during subsurface construction activities (i.e., trenching, grading), all construction activities within a 50-foot radius of the identified potential resource shall cease until a qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation (DPR) forms. The archaeologist shall determine whether the item requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under CEQA, the archaeologist shall recommend a feasible protocol, which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code Section 21083.2.</p>	During construction phase	Project Contractor/Lead Agency		

Mitigation Measure	Timeframe	Responsible Monitoring Agency	Date	Initial
MM CUL-2: If ground-disturbing activities uncover previously unknown human remains, Section 7050.5 of the California Health and Safety Code applies, and the following procedures shall be followed: There shall be no further excavation or disturbance of the area where the human remains were found until the County Coroner/Sheriff's Office is contacted. Duly authorized representatives of the Coroner shall be permitted onto the Project site and shall take all actions consistent with Health and Safety Code Section 7050.5 and Government Code Section 27460, et seq. Excavation or disturbance of the area where the human remains were found, or within 50 feet of the find, shall not be permitted to recommence until the Coroner determines that the remains are not subject to the provisions of law concerning investigation of the circumstances, manner, and cause of any death. If the Coroner determines the remains are Native American, the Coroner shall contact the NAHC within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.	During construction phase	Project Contractor/Lead Agency		
MM GEO 1: Prior to Project implementation, the Applicant shall submit an approved copy of (1) the approved Storm Water Pollution Prevention Plan (SWPPP), and (2) the Notice of Intent (NOI) to comply with the General National Pollutant Discharge Elimination System (NPDES) from the Central Valley Regional Water Quality Control Board. The requirements of the SWPPP and the NPDES shall be incorporated into the design specifications and construction contracts.	Prior to construction	Project Contractor/Lead Agency		
MM GEO-2: The Applicant will incorporate into the construction contract(s) a provision that in the event a fossil or fossil formations are discovered during any subsurface construction activities for the proposed Project (i.e., trenching, grading), all excavations within 50 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the Applicant, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the Applicant shall implement those measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code Section 21083.2.	During construction phase	Project Contractor/Lead Agency		
MM TRA-1: The Applicant shall be responsible for the following improvements: <u>Intersections:</u> Main Street at Campbell Boulevard <ul style="list-style-type: none"> Near-Term Plus Project scenario: <ul style="list-style-type: none"> Install traffic signal Cumulative Year 2042 Plus Project scenario: <ul style="list-style-type: none"> Install traffic signal Widen the westbound approach to one left turn lane, one through lane, and one right turn lane (adding one right turn lane) Winton Parkway at SR 99 NB Ramps <ul style="list-style-type: none"> Cumulative Year 2042 Plus Project scenario: 	At appropriate timeframe	Project Contractor/Lead Agency		

Mitigation Measure	Timeframe	Responsible Monitoring Agency	Date	Initial
<ul style="list-style-type: none">○ Install Traffic Signal○ Widen the southbound approach to one through lane and one right turn lane (adding one right turn lane)				
Winton Parkway at SR 99 SB Ramps				
<ul style="list-style-type: none">• Existing Plus Project and Near-Term Plus Project scenario:<ul style="list-style-type: none">○ Install Traffic Signal○ Widen the northbound approach to one through lane and one right turn lane (adding one right turn lane)○ Widen the eastbound approach to one left turn lane and one right turn lane (adding one left turn lane)• Cumulative Year 2042 Plus Project scenario:<ul style="list-style-type: none">○ Install Traffic Signal○ Widen the northbound approach to one through lane and one right turn lane (adding one right turn lane)○ Widen the eastbound approach to one left turn lane and two right turn lane (adding one left turn lane and one right turn lane)				
Hammatt Avenue at SR 99 NB Ramps				
<ul style="list-style-type: none">• Existing Plus Project scenario:<ul style="list-style-type: none">○ Install Traffic Signal• Near-Term Plus Project scenario:<ul style="list-style-type: none">○ Install Traffic Signal○ Widen the westbound approach to one left-through lane and two right turn lanes (adding one right turn lane)• Cumulative Year 2042 Plus Project scenario:<ul style="list-style-type: none">○ Install Traffic Signal○ Widen the southbound approach to one through lane and one right turn lane (adding one right turn lane)○ Widen the westbound approach to one left-through lane and two right turn lanes (adding one right lane)				
Hammatt Avenue at SR 99 SB Ramps				
<ul style="list-style-type: none">• Near-Term Plus Project scenario:<ul style="list-style-type: none">○ Install Traffic Signal• Cumulative Year 2042 Plus Project scenario:<ul style="list-style-type: none">○ Install Traffic Signal○ Widen the northbound approach to one through lane and one right lane (adding one right turn lane)				
MM TRA-2:	The applicant or developer shall be required to contribute a fair share towards the costs of improvements that are identified for the Cumulative Year 2042 scenarios. The intent of determining the equitable responsibility for the improvements identified above for the Cumulative Year 2042 scenarios, is to provide a starting point for early discussions to address traffic mitigation equitability and to calculate the equitable share for mitigating traffic impacts.			
	Prior to issuance of certificate of occupancy or sooner if required by City staff.	Project Contractor/Lead Agency		

Mitigation Measure	Timeframe	Responsible Monitoring Agency	Date	Initial	
The formula used to calculate the equitable share responsibility to the study area is as follows:					
Equitable Share = (Project Trips)/(Future Year Plus Approved Project Traffic – Existing Traffic).					
Equitable Share Responsibility					
INTERSECTION	PEAK HOUR	EXISTING	PROJECT TRIPS	CUMULATIVE YEAR 2042 PLUS PROJECT	FAIR SHARE PERCENTAGE
Main Street / Campbell Boulevard	AM	1,189	22	1,701	4.3%
	PM	946	28	1,396	6.2%
Winton Parkway / SR 99 NB Ramps	AM	1,284	4	1,727	0.9%
	PM	1,243	6	1,675	1.4%
Winton Parkway / SR 99 SB Ramps	AM	1,711	3	2,301	0.5%
	PM	1,727	2	2,323	0.3%
Hammatt Avenue / SR 99 NB Ramps	AM	1,322	6	2,208	0.7%
	PM	1,262	7	2,131	0.8%
Hammatt Avenue / SR 99 SB Ramps	AM	1,160	1	1,873	0.1%
	PM	1,236	5	2,010	0.6%

MM UTL-1:	During construction of future commercial cannabis facilities, the Project Applicant shall not store construction waste on-site for longer than the duration of the construction activity or transport any waste to any unpermitted facilities. The Project Applicant shall also reduce construction waste transported to landfills by ensuring construction and demolition waste is hauled to one of the six City-approved construction and demolition disposal facilities listed above.	During construction phase	Project Contractor/Lead Agency	
MM UTL-2:	In order to reduce the amount of waste generated from cannabis-related operations being taken to the landfill, the following shall be incorporated into the CUP conditions of approval for each Project: Businesses generating four cubic yards or more of commercial solid waste per week are required to recycle and take one, or any combination, of the following actions: - Subscribe to source-separated recycling service with a regional franchise hauler authorized to provide service for the area in which the business is located. - Subscribe to a mixed solid waste recycling service with a regional franchise hauler authorized to provide service for the areas in which the business is located. - Self-recycle and certify compliance. Undertake a combination of such measures, or such alternate measures, as may be approved by the City to reduce the amount of waste from the commercial sector being taken to a landfill.	Throughout Operations	Project Contractor/Lead Agency	
MM UTL-3:	Prior to issuance of grading or building permits, the Project Applicant shall construct, adequate, segregated, on-site screened storage for collection of commercial solid waste and source-separated recyclable materials if constructing new facilities or if existing facilities do	Prior to issuance of grading or building permits	Project Contractor/Lead Agency	

Mitigation Measure	Timeframe	Responsible Monitoring Agency	Date	Initial
not provide such areas. The area shall be designed to be architecturally compatible with the development and shall not prevent security of the recyclables. Driveways and/or travel aisles shall provide, at a minimum, unobstructed access for collection vehicles and personnel. A sign clearly identifying all recycling/solid waste collection and loading areas and the materials accepted shall be posted adjacent to all points of direct access to the area.				

APPENDIX B
SPECIAL-STATUS SPECIES TABLE

Table B-1
Special-Status Plant and Wildlife Species in the Regional Vicinity of the Project Site
Greenzone LLC, Merced County, California

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
Plants				
<i>Astragalus tener</i> var. <i>tener</i> Alkali milk-vetch	-/- 1B.2/-	This annual plant occurs in alkaline habitat, in playas, valley and foothill grassland (adobe clay), and vernal pools. It flowers from March to June and the elevation range is between 3 and 196 feet.	No	Habitat to support this species does not occur on the Project site. Vernal pools, playas, and grasslands do not occur on the site. The soil on-site is slightly alkaline Delhi loamy fine sand and Delhi sand. This species grows in adobe clay. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Atriplex cordulata</i> var. <i>cordulata</i> heartscale	-/- 1B.2/-	Annual herb; blooms April to October; occurs on saline or alkaline soils in chenopod scrub, meadows and seeps, and valley and foothill grassland (also sandy soils in this habitat); elevation ~0 to 1,840 feet; documented on foothills, lower mountains, and Central Valley floor; threatened by trampling.	No	Suitable habitat to support this species does not occur on the Project site. The site has slightly alkaline sandy soil and potentially suitable grassland habitat to support this species but is regularly disked and disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Atriplex depressa</i> brittlescale	-/- 1B.2/-	Annual herb; blooms April to October; occurs on alkaline and clay soils in chenopod scrub, meadows and seeps, playas, vernal pools, and valley and foothill grassland; elevation ~ 1 to 1050 feet; threatened by development, grazing, and trampling; documented on Central Valley floor, foothills, and lower mountains.	No	Habitat to support this species does not occur on the Project site. The soil on-site is Delhi loamy fine sand and Delhi sand which are not suitable substrates for this species to grow. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Atriplex minuscula</i> lesser saltscale	-/- 1B.1/-	Annual herb; blooms May to October; occurs on alkaline and sandy soils in chenopod scrub, playas, and valley and	No	The site has slightly alkaline sandy soil and potentially suitable grassland habitat to support this

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		foothill grassland; elevation ~50 to 655 feet; threatened by agriculture and solar energy development; documented primarily on Central Valley floor with some lower foothill occurrences.		species but is regularly disked and disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Atriplex persistens</i> vernal pool smallscale	-/- 1B.2/-	Annual herb; blooms June and August – October; restricted to alkaline vernal pools on the floor of the San Joaquin Valley and is endemic to California; elevation ~ 30 to 375 feet; threatened by agriculture and flood control activities; documented primarily on Central Valley floor.	No	Habitat to support this species does not occur on the Project site. There are no vernal pools on-site and the site is regularly disked and highly disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Atriplex subtilis</i> subtle orache	-/- 1B.2/-	Annual herb; blooms June, August, September, and possibly October; occurs on alkaline soils in valley and foothill grassland; elevation ~130 to 330 feet; threatened by agriculture and possibly solar energy development; documented primarily on Central Valley floor.	No	The site has slightly alkaline soil and potentially suitable grassland habitat to support this species but is regularly disked and disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Calycadenia hooveri</i> Hoover's calycadenia	-/- 1B.3/-	Annual herb; blooms July – September; occurs on rocky soils in cismontane woodland and valley and foothill grassland; elevation ~ 215-985 feet; threatened by development; documented primarily in eastern foothills of Central Valley.	No	This species prefers rocky soil in cismontane woodland and grassland and is sensitive to disturbance. The site has sandy soil and has fallowed cropland habitat that is regularly disked and disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Castilleja campestris</i> var. <i>succulenta</i> succulent owl's-clover	FT/SE 1B.2/-	Annual herb (hemiparasitic); blooms April – May, sometimes as early as March; occurs vernal pools, swales and some seasonal wetlands, often on acidic soils; elevation ~165-2,460 feet; threatened by urban and agricultural	No	This species prefers wet habitats. Vernal pool, swales, and seasonal wetland habitat to support this species does not occur on the Project sit. Delhi soil is slightly alkaline, and this species prefers acidic soils.

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		development, flood control, grazing, and trampling; documented primarily on eastern Central Valley floor and foothills from Fresno County north.		There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Eryngium racemosum</i> Delta button-celery	-/SE 1B.1/-	This species occurs in riparian scrub, clay soils on sparsely vegetated margins of seasonally flooded flood plains. It flowers from June to September, and it ranges in elevation from 15 to 75 feet.	No	This species prefers riparian areas typically in floodplains. There is no riparian scrub habitat to support this species does not occur on the Project site. The site has slightly alkaline sandy soil and the site is regularly disked and highly disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Euphorbia hooveri</i> Hoover's spurge	FT/- 1B.2/-	Annual herb; blooms July to September, sometimes into October; occurs in vernal pool habitats from ~80 feet to 820 feet; several scattered occurrences throughout the Central Valley, mostly on the valley floor or surrounding foothills; threatened by grazing, agriculture, and non-native plants.	No	This species occurs in vernal pool habitats and is sensitive to disturbance. Habitat to support this species does not occur on the Project site as there are no vernal pools on-site and the site is regularly disked and highly disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Extriplex joaquinana</i> San Joaquin spearscale	-/- 1B.2/-	Annual herb; blooms April to September, occurs in alkali playa, chenopod scrub, meadow and seep, and valley and foothill grassland habitats from ~0 feet to 2625 feet; often found in seasonal alkali wetlands or alkali sink scrub with <i>Distichlis spicata</i> .	No	Habitat to support this species does not occur on the Project site. There are no alkali wetlands or alkali sink scrub on-site and the site is regularly disked and highly disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Lasthenia glabrata ssp. coulteri</i> Coulter's goldfields	-/- 1B.1/-	This species is found in coastal marshes and swamps, and playas and vernal pools in the interior of California. It flowers between February	No	Habitat to support this species does not occur on the Project site. There are no vernal pools, playas, or swamps present. There are no

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Lepidium latipes</i> var. <i>heckardii</i> Heckard's pepper-grass	-/- 1B.2/-	and June, and it ranges in elevation from 0 to 4,002 feet. This species is found in valley and foothill grasslands on alkaline flats. It flowers between March and May, and it ranges in elevation from 0 to 656 feet.	No	recorded occurrences for the species within 10-miles of the Project site. This species prefers grasslands. The Project site consists of fallow cropland dominated by ruderal species the site is regularly disked and is highly disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Monardella leucocephala</i> Merced monardella	-/- 1A/-	This annual herb is found in valley and foothill grasslands on sandy, mesic soil. It flowers between May and August, and it ranges in elevation from 115 to 328 feet.	No	This species prefers sandy mesic soil. Although the Project site has sandy, soil and the southern portion of the Project site has fallowed cropland dominated by ruderal species, the site soil is not mesic and is regularly disked and highly disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Navarretia prostrata</i> prostrate vernal pool navarretia	-/- 1B.1/-	This annual herb is found in coastal scrub, meadows and seeps, valley and foothill grassland on alkaline soils, and in vernal pools. It flowers between April and July, and it ranges in elevation from 0 to 3,970 feet.	No	Habitat to support this species does not occur on the Project site. This species preferential habitat: coastal scrub, meadows, seeps, and grasslands, do not occur on the site. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Neostapfia colusana</i> Colusa grass	FT/SE 1B.1/-	Annual herb; blooms from May-August; occurs in vernal pools, usually larger pools and on adobe soils; elevation ~16 to 650 feet; threatened by agriculture, development, overgrazing, hydrologic alterations, non-native plants, and habitat loss/fragmentation; documented	No	Habitat to support this species does not occur on the Project site. The soil on-site is not suitable for this species and there are no vernal pools on-site. There are no recorded occurrences for the species within 10-miles of the Project site.

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		primarily on Central Valley floor from Merced County northward.		
<i>Orcuttia inaequalis</i> San Joaquin Valley Orcutt grass	FT/SE 1B.1/-	Annual herb; blooms April to September; occurs in vernal pools; elevation ~32-2,500 feet; threatened by agricultural, development, overgrazing, channelization, and non-native plants; documented primarily on eastern Central Valley floor and foothills from Visalia north.	No	Vernal pool habitat to support this species does not occur on the Project site. This species is sensitive to disturbance and the site is regularly disked and highly disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Orcuttia Pilosa</i> hairy Orcutt grass	FE/SE 1B.1/-	Annual herb; blooms May to September; occurs in vernal pools; often in acidic and saline-alkaline soils; elevation ~150 to 655 feet; threatened by agriculture, urbanization, overgrazing, non-native plants, and trampling; only known from a few locations on the Central Valley floor and lower foothills in Madera, Merced, and Stanislaus counties, and the very northern portion of the valley in Butte, Glenn, and Tehama counties.	No	The species preferential vernal pool habitat does not occur on-site and the site is regularly disked and highly disturbed. This species is sensitive to disturbance. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Pseudobahia bahiifolia</i> Hartweg's golden sunburst	FE/SE 1B.1/-	Annual herb; blooms March-April; occurs on clay soils in cismontane woodland and valley and foothill grasslands often in acidic conditions; elevation ~45 to 500 feet; threatened by development, agricultural, overgrazing, and trampling; many occurrences very small; documented primarily in Sierra Nevada foothills and valley floor margins from Fresno County north.	No	The soil on-site is slightly alkaline Delhi loamy fine sand and Delhi sand which are not suitable substrates for this species to grow. This species also prefers undisturbed woodland and grassland habitat that is absent from the highly disturbed site. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Puccinellia simplex</i> California alkali grass	-/- 1B.2/-	Annual herb; blooms March-May; occurs in vernal moist, alkaline conditions in chenopod scrub,	No	This species prefers wet or moist conditions. There is not sufficient moisture on-site to support this

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		meadows and seeps, valley and foothill grassland, and vernal pools, usually on sinks, flats, and lake margins; elevation ~6 to 3,050 feet; threatened by hydrological alterations, urbanization, agricultural conversion, development, and habitat fragmentation/disturbance; scattered documented occurrence throughout Central Valley, coast ranges, and Mohave desert.		species and the grasslands on the site are regularly disked and highly disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Sagittaria sanfordii</i> Sanford's arrowhead	-/- 1B.2/-	Perennial rhizomatous herb (emergent); blooms May-October, sometimes into November; occurs in assorted shallow freshwater marshes and swamps, and slow-moving waterways, in sandy loam and clay soils; elevation ~0 to 2,130 feet; threatened by grazing, development, recreational activities, non-native plants, road widening, and channel alteration/maintenance; documented primarily throughout Central Valley on valley floor and surrounding foothills.	No	Habitat to support this species does not occur on the Project site. This species prefers undisturbed wet areas and there is not sufficient moisture on-site to support this species as there are no freshwater marshes, swamps, and slow moving waterways (the canal on-site is concrete lined making it insufficient for the growth of this species near water). The site is also highly disturbed. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Sidalcea keckii</i> Keck's checker-mallow	FE/- 1B.1/-	Annual herb; blooms April-May, sometimes June; occurs on serpentinite and clay soils in cismontane woodland and valley and foothill grassland; elevation ~246 to 2,132 feet; known from only three occurrences in Fresno and Merced counties (other occurrences are unconfirmed).	No	Woodland and grassland habitats are absent from the site. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Tuctoria greenei</i> Greene's tuctoria	FE/SR 1B.1/-	Annual herb; blooms May-July, sometimes September; occurs in small	No	Habitat to support this species does not occur on the Project site. This

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		or shallow vernal pools, primarily on Anita clay and Tuscan loam soils; elevation ~100 to 3510 feet; threatened by agriculture, urbanization, overgrazing, and habitat fragmentation; documented on Central Valley floor and surrounding foothills; many occurrences presumed extirpated.		species preferential vernal pool habitat does not occur on-site. This species is also sensitive to disturbance and the site is highly disturbed by agriculture. There are no recorded occurrences for the species within 10-miles of the Project site.
Invertebrates				
<i>Bombus crotchii</i> Crotch bumble bee	-/SC -/-	This bee occurs in relatively warm and dry sites, including the inner Coast Range of California and the margins of the Mojave Desert. It can be found in open grassland and scrub habitats. Nesting occurs underground. This species is classified as a short-tongued species, whose food plants include <i>Asclepias</i> , <i>Chaenactis</i> , <i>Lupinus</i> , <i>Medicago</i> , <i>Phacelia</i> , and <i>Salvia</i> .	No	Suitable foraging habitat for this species does not occur on the Project site. This species prefers <i>Asclepias</i> , <i>Chaenactis</i> , <i>Lupinus</i> , <i>Medicago</i> , <i>Phacelia</i> , and <i>Salvia</i> plant species all of which are absent from the project site. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Branchinecta conservatio</i> conservancy fairy shrimp	FE/- -/-	Found in large, cool-water vernal pools with moderately turbid water that generally last until June; shrimp are generally present in vernal pools from early November to early April; average time to maturity is 49 days, but can be as little as 19 days in warmer pools; eggs laid in spring and persist through dry season as cysts; endemic to the Central Valley and surrounding foothills and mountains; only eight (8) known populations; threatened by habitat loss, degradation, and fragmentation, and interference with vernal pool hydrology.	No	Suitable vernal pool habitat does not occur on the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Branchinecta longiantenna</i> longhorn fairy shrimp	FE/- -/-	This fairy shrimp species occurs in and is endemic to the eastern margin of the central coast mountains. It is found seasonally in astatic grassland vernal pools and inhabits small, clear-water depressions in sandstone and clear-to-turbid clay/grass-bottomed pools in shallow swales.	No	Suitable vernal pool habitat does not occur on the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	FT/- -/-	Occur a variety of vernal pool habitats that range from small, clear pools to large, turbid and alkaline pools; more common in pools less than 0.05 acre, typically as part of larger vernal pool complexes; adults active from early December to early May; pools must hold water for at least 18 days, the minimum to complete the life cycle if temperatures are optimal; eggs laid in spring and persist through dry season as cysts; current California distribution includes the Central Valley and coast ranges; threatened by habitat loss, degradation, and fragmentation, and interference with vernal pool hydrology.	No	Suitable vernal pool habitat does not occur on the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Branchinecta mesoavallensis</i> midvalley fairy shrimp	-/- -/-	Found in small, warmer, short-lived vernal pools and grass-bottomed swales less than 663 square feet; can reach maturity in as few as eight (8) days and complete multiple hatchings in a single rainy season; eggs laid in spring and persist through dry season as cysts; endemic to small portion of the Central Valley in Southeastern Sacramento, Southern Sierra Foothill, San Joaquin and Solano-Colusa Vernal	No	Suitable vernal pool habitat does not occur on the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		Pool Regions; range may be larger as this species was only recently described; potential threatened by habitat loss, degradation, and fragmentation, and interference with vernal pool hydrology.		
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	FT/- -/-	Closely associated with elderberry shrubs (<i>Sambucus</i> sp.) for food and reproduction; usually along rivers and streams; eggs laid on bark, and larvae hatch and burrow into the stems; adults eat elderberry leaves and flowers; stem diameter must be minimum one inch; exit holes in stems are most common methods for identification; ranges from southern Shasta County to Fresno County.	No	Suitable elderberry shrubs for foraging and reproduction do not occur on the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	FE/- -/-	Occur in wide variety of ephemeral wetland habitats from 6.5 square feet to 88 acres in size; majority of occurrences found on High Terrace landforms and Redding and Corning soils; minimum 25 days to mature; average age to reproduction is 54 days; predators of vernal pool fairy shrimp; eggs laid in spring and persist through dry season as cysts; current distribution is in Central Valley and San Francisco Bay area; threatened by habitat loss, degradation, and fragmentation, and interference with vernal pool hydrology.	No	Suitable vernal pool habitat does not occur on the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Lindieriella occidentalis</i> California linderiella	-/- -/-	Most widely distributed fairy shrimp in California; found in vernal pools from 10.8 square feet to 13 acres supported by most land forms, geologic	No	Suitable vernal pool habitat does not occur on the Project site. There are no recorded occurrences for the

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		formations, and soil types; vernal pool types may include swales, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activities; minimum 31 days to maturity with average 43 days to reproduce; eggs laid in spring and persist through dry season as cysts; current distribution is from Central Valley and coast ranges; threatened by habitat loss, degradation, and fragmentation, and interference with vernal pool hydrology.		species within 10-miles of the Project site.
<i>Lytta molesta</i> molestan blister beetle	-/- -/-	Often found on flowers of native plant species; may be associated with dried vernal pools; adults are herbivorous, with many species feeding mostly on flowers, but some feed on foliage; distribution not well understood but known from Central Valley from Contra Costa County to Tulare and Kern Counties.	No	There is no suitable foraging habitat for this species on the Project site. This species prefers feeding on native plant species and has been known to be associated with vernal pool habitat. The vegetation on the site includes ruderal species and orchard trees and there is no vernal pool habitat for this species on-site. There are no recorded occurrences for the species within 10-miles of the Project site.
Fish <i>Hypomesus transpacificus</i> delta smelt	FT/SE -/-	Only six isolated, documented populations: Friant-Kern Canal and lower reaches of Merced River, Kaweah River, Kings River, San Joaquin River, as well as Kings River above Pine Flat Reservoir and San Joaquin River between Millerton reservoir and Redinger Dam; possible 7th in the Sacramento River watershed; prefer silty backwaters of large rivers in	No	There is no suitable riverine habitat on-site and this species only has six known documented populations in large rivers. There are no recorded occurrences for the species within 10-miles of the Project site.

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		foothill regions; coarse gravel-rubble substrate required for spawning; threatened by dams, agricultural impacts on canals, urbanization, instream mining, and non-native species.		
<i>Mylopharodon conocephalus</i> hardhead	-/- -/SSC	Found in small to large streams in low- to mid-elevation in relatively undisturbed habitats; also in lakes or reservoirs; found in clear, cool, deep streams with a slow but present flow; bottom feeders that focus on invertebrates and aquatic plant material from stream substrates; spawning typically on gravel and rocky substrates; widely distributed: Sacramento-San Joaquin and Russian River drainages, Pit River in Modoc County to Kern River; in San Joaquin drainage can be found in tributary streams but rarely in valley reaches of the river; absent from Cosumnes River.	No	This species has only been known to occur in large streams in relatively undisturbed habitats. There is no sufficient stream habitat for this species on the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Oncorhynchus mykiss</i> <i>irideus</i> pop. 11 steelhead-Central Valley DPS	-/- -/-	Anadromous fish species, living in salt water but spawning in fresh water; spawn from December through April; spawn in small, cool streams and tributaries in gravel substrates; seven inch-minimum depth to support migration; ocean and spawning habitats must be connected.	No	Habitat to support this species does not occur on the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.
Amphibians				
<i>Ambystoma californiense</i> California tiger salamander	-/- -/WL	Occurs in ephemeral pools or ponds that mimic them, and that remain inundated for 12 weeks or more; can occupy artificial ponds (ranch stock ponds) if ponds are allowed to go dry	No	Suitable pond habitat to support this species does not occur on the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		in the summer; requires nearby upland habitat containing small mammal burrows or crevices that provide refugia; restricted to grasslands and low foothills; lives underground most of the year.		
<i>Rana draytonii</i> California red-legged frog	FT/- -/-	Occurs primarily in and near ponds in forests, woodlands, grasslands, coastal scrub, and stream sides with plant cover; mostly in lower elevations; breeding habitat may be permanent or ephemeral; estivates in animal burrows or other moist refuges when ephemeral habitat is dry; endemic to California and northern Baja California; found throughout coastal California from Mendocino County south; inland distribution includes northern Sacramento Valley and foothills of Sierra Nevada south to Tulare County (possibly Kern County); elevation from sea level to 5,000 feet.	No	Suitable habitat to support this species does not occur on the Project site. Although there is an irrigation canal that runs through the site, it is cement-lined and there is little to no vegetation to provide cover for this species. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Spea hammondi</i> western spadefoot	-/- -/-SSC	Species relies on vernal pools for breeding where predators cannot become established; open areas with sand or gravelly soils in a variety of habitats: grasslands, coastal scrub, woodlands, chaparral, sandy washes, lowland river floodplains, alkali flats, foothills, and mountains; endemic to California and northern Baja California; distribution from Redding south throughout Central Valley and foothills, throughout South Coast Ranges into coastal southern California to Transverse mountains and	No	The Project site contains sandy soil however suitable vernal pool habitat does not occur on the Project site to support breeding. There are no recorded occurrences for the species within 10-miles of the Project site.

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
<p>Peninsular mountains; elevation from sea level to 4,500 feet.</p>				
<p>Reptiles <i>Actinemys [=Emys]</i> <i>marmorata</i> western pond turtle</p>	<p>-/- -/SSC</p>	<p>Highly aquatic and diurnally active; found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with vegetation and rocky/muddy bottoms; wide variety of habitats; need basking areas near water (logs, rocks, vegetation mats, banks); may enter brackish water and even seawater; digs nest on land near water; range from north of San Francisco Bay area south, including Central Valley.</p>	<p>Yes</p>	<p>The canal that runs through the site is cement lined and does not provide suitable breeding or basking habitat however there is low potential that this species could use the canal as a movement corridor. There are no recorded occurrences for the species within 10-miles of the Project site.</p>
<p><i>Anniella pulchra pulchra</i> silvery legless lizard</p>	<p>-/- -/SSC</p>	<p>This species occurs in moist warm loose soil with plant cover. Moisture is essential. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.</p>	<p>No</p>	<p>Habitat to support this species does not occur on the Project site. The concrete lining of the canal restricts moisture from the canal water flow from entering the soil. There is no beach dune, chaparral, pine-oak woodland, desert scrub, sandy wash habitat or stream terraces with sycamores, cottonwoods, or oaks for this species. There are no recorded occurrences for the species within 10-miles of the Project site.</p>
<p><i>Gambelia silus [=sila]</i> blunt-nosed leopard lizard</p>	<p>FE/SE -/-</p>	<p>Occurs in semiarid habitats within the southern Central Valley and Cuyama Valley; habitats typically are flat and have large open areas with scattered shrubs for refuge; uses small mammal burrows for shelter; spends most of year underground, surfacing in spring/early summer to breed and eat; hatchlings surface in fall to eat; may interbreed with long-nosed leopard</p>	<p>No</p>	<p>Suitable habitat to support this species does not occur on the Project site. This species historically prefers alkali and desert scrub habitats which are absent from the site. There are no recorded occurrences for the species within 10-miles of the Project site.</p>

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		lizard in Cuyama Valley; threatened by habitat loss/fragmentation and drought; elevation from 100-2,400 feet.		
<i>Phrynosoma blainvillii</i> Blainville's [=coast] horned lizard	-/- -/SSC	Prefers sandy/loose soils in grassland, forests, woodlands, and open chaparral; often found along sand washes and dirt roads with scattered shrubs for refuge; specialized in consuming ants; distribution includes coastal California from Baja California north to the Bay Area, southeastern desert regions, southern Central Valley flats and foothills and surrounding mounts on drier, warmer slopes; threatened by habitat loss/fragmentation and spread of invasive ant species displacing native prey; elevation from sea level to 8,000 feet.	No	Although the soil on-site is loose Delhi loamy fine sand and Delhi sand which provide potential habitat for this species, this species prefers valley foothill hardwood, conifer and riparian habitats, as well as pine-cypress, juniper and annual grassland habitats. These are absent from the site. The ruderal vegetation to the south of the site is dense and subject to regular disking and the likelihood of this species presence is low.
<i>Thamnophis gigas</i> giant gartersnake	FT/ST -/-	Highly aquatic snake found in marshes and sloughs, drainage canals, and irrigation ditches; prefers vegetation close to water for basking; does not venture more than 200 feet from aquatic habitat; elevation from sea level to 400 feet; endemic to California; currently ranges from Glenn County to southern edge of San Francisco Bay Delta, and from Merced County to northern Fresno County.	No	Suitable habitat to support this species does not occur on the Project site. Marshes, sloughs, and irrigation ditches do not occur on-site. There is a canal that runs through the site however it is concrete lined without suitable basking vegetation near the water. There are no recorded occurrences for the species within 10-miles of the Project site.
Birds				
<i>Agelaius tricolor</i> tricolored blackbird	-/ST -/-	Colonial breeder that prefers freshwater, emergent wetlands with tall, dense cattails or tules, but also thickets of willow, blackberry, wild	No	Emergent wetland habitat to support this species does not occur on the Project site. There are no

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		rose, and tall herbs; breeding colonies are minimum ~50 pairs; forages in pastures, grain fields, and similar habitats near breeding areas.		recorded occurrences for the species within 10-miles of the Project site.
<i>Aquila chrysaetos</i> golden eagle	-/- -/-	Occurs in broadleaved upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Great Basin scrub, lower and upper montane coniferous forests, pinon & juniper woodlands, valley & foothill grassland; prefers rolling foothills, mountain areas, sage-juniper flats, and desert for foraging; nests in cliff-walled canyons and isolated large trees in open areas; elevational range from sea level to 11,500 feet; may desert nest early in incubation phase if disturbed by humans.	No	Habitat to support this species does not occur on the Project site which includes broadleaved upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Great Basin scrub, lower and upper montane coniferous forests, pinon & juniper woodlands, valley & foothill grassland. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Ardea alba</i> Great egret	-/- -/-S	This species occurs in freshwater, brackish, and marine wetlands. The great egret eats mainly small fish but also eats amphibians, reptiles, birds, small mammals and invertebrates. Nests are built up to 100 feet off the ground, often over water, usually in or near the top of a shrub or tree.	No	Habitat to support this species does not occur on the Project site which includes freshwater, brackish, and marine wetlands. The canal also provides an insufficiently suitable food source for this species. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Ardea herodias</i> great blue heron	-/- -/-S	Occurs in shallow estuaries, fresh and saline emergent wetlands, rivers, streams, lake and marine shores, croplands, pastures, and mountains above foothills; primary prey is small fish, but will consume rodents, amphibians, snakes, lizards, invertebrates, and birds; usually nests in colonies in tops of secluded large	No	Suitable nesting habitat to support this species does not occur on the Project site. There are no secluded large snags or trees appropriate for nesting on the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		snags or live trees; fairly common year-round throughout most of California.		
<i>Athene cunicularia</i> Western burrowing owl	-/- -/SSC	Occupies variety of open, semi-arid to arid habitats throughout central and southern California, including desert regions; prefers open habitats with few shrubs or trees; most active around sunrise and sunset; utilizes burrows constructed by mammals year-round for shelter and nesting; well documented in urban areas where patches of undeveloped areas are present (e.g., canals, airports, drainage basins), and in areas of dense agricultural development where, particularly where canals provide burrow habitat; forages primarily for rodents and insects within several miles of burrow, usually in open grassy habitats if available; has been observed hunting bats and insects around parking lot lights; threats include development resulting in habitat loss/fragmentation.	Yes	There is potential for foraging and nesting on the Project site. Potential burrows in open fields are present on-site, but this species is known only to be winter migrant in the area. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Buteo regalis</i> ferruginous hawk	-/- -/WL	Does not breed in California; found in open grasslands in Central Valley, Coast Ranges, and Modoc Plateau; preys upon small mammals.	No	This species prefers open grasslands which are absent from the Project site. The site contains fallow cropland and fallow orchard. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Buteo swainsoni</i> Swainson's hawk	-/ST -/-	Occurs in grassland, desert and agricultural landscapes in the Central Valley and Antelope Valley; hawks may be resident or migrant; breeds in	Yes	There are potential nesting substrates (i.e. power poles and tall trees) within 0.5 miles of the Project site for this species. There are no

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		stands with few trees in juniper-sage flats, riparian areas, and oak savannah; also observed breeding in large eucalyptus trees along freeways and in trees over rural residences surrounded by agriculture; may nest on ground if no suitable trees are available; nests are platform of sticks, bark, and fresh leaves at or near top of trees; breeds from late March to late August; forages in grassland, open scrub, and grain fields, primarily for rodents.		recorded occurrences for the species within 10-miles of the Project site.
<i>Charadrius montanus</i> mountain plover	-/- -/SSC	Does not breed in California; winter resident from September-March; occurs in grasslands, open sagebrush, and plowed fields throughout central and southern California, except desert regions; feeds on large insects, especially grasshoppers.	No	The project site is west of the species typical range. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Haliaeetus leucocephalus</i> bald eagle	-/SE -/FP	Permanent resident; occurs in forested habitats near water; restricted to breeding mostly in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties; other scattered breeding occurrences throughout California; not found in high Sierra Nevada; common winter migrant near inland waters in southern California; feeds primarily on fish by swooping from hunting perches; will wade into shallow water to pursue fish; will pursue displaced small mammals in flooded fields; scavenges dead fish and other animals; nests in large, old-growth, or dominant live tree with open branchwork near open water;	No	Suitable nesting and foraging habitat for this species does not occur on the Project site. This species prefers aquatic regions with a prey base of fish and small mammals displaced by flooded fields. It also nests in old growth or large trees with open branchwork near open waters. There are no recorded occurrences for the species within 10-miles of the Project site.

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		nests most often in stands with less than 40% canopy, usually in largest tree in stand.		
<i>Vireo bellii pusillus</i> least Bell's vireo	FE/SE -/-	This species occurs in riparian habitat during breeding season and prefers early successional habitat. It typically occurs in woodlands along watercourses, include cottonwood-willow forests, oak woodlands, and mule fat scrub.	No	Suitable nesting and foraging habitat for this species does not occur on the Project site. This species prefers woodlands along watercourses, include cottonwood-willow forests, oak woodlands, and mule fat scrub all of which are absent from the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.
Mammals				
<i>Antrozous pallidus</i> pallid bat	-/- -/SSC	Occurs throughout California in wide variety of habitats: grasslands, shrublands, woodlands, forests up through mixed conifer; most common in open, dry habitats with rocky areas for roosting; yearlong resident; feeds mainly on insects and arachnids on the ground or by gleaning; day roosts in caves, crevices, mines, and occasionally hollow trees and buildings, including bridges; night roosts in more open sites; maternity colonies form early April with young flying by July or August; needs water; very sensitive to disturbance of roosting sites.	Yes	This species has been known to occasionally use hollow trees and bridges for day roosting however this is uncommon and the species prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Dipodomys heermanni dixonii</i> Merced kangaroo rat	-/- -/-	Subspecies occurring on the east side of the San Joaquin Valley (Lower Sonoran Zone) in open, sandy or dusty grassland habitats; recorded at Snelling, near Merced Falls, and below Lagrange, in Merced and Stanislaus counties.	No	Suitable open sandy or dusty grassland habitat for this species does not occur on the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Dipodomys nitratoideus exilis</i> Fresno kangaroo rat	FE/SE -/-	Occurs on alkali open grassland on bare alkaline clay-based soils; nocturnal species; burrows with tunnels approximately 12 to 15 inches below ground; threatened by predation and disease; historically occurred on the valley floor in Kings, Fresno, Madera, and Merced counties, but may be extirpated.	No	Suitable burrowing soil for this species is not present on the Project site. The soil is sandy and this species prefers burrowing in open grassland on bare clay-based soils. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Eumops perotis californicus</i> western mastiff bat	-/- -/SSC	Occurs in open, semi-arid to arid habitats throughout southeastern San Joaquin Valley and Coast Ranges from Monterey County southward; also in urban areas; feeds on insects captured in flight; roosts in cliff faces, high buildings, trees, and tunnels; nursery roosts most often in tight rock crevices or crevices in buildings; maternity season begins in March with young flying on their own by September.	Yes	Suitable tree roosting habitat occurs on the Project site in the deciduous orchard in the north section of the site however maternity roosts occur in tight crevices which are absent from the site. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Lasiurus blossevillei</i> western red bat	-/- -/SSC	Locally common in areas from Shasta County to Mexican border, west of the Sierra Nevada/Cascade crests; migrates between summer and winter ranges; roosts in forests and woodlands from sea level up through mixed conifer forests; not in deserts; feeds on insects over grasslands, shrublands, open woodlands and forests, and croplands; roosts primarily in trees on edge habitats near streams, fields, or urban areas, less often in shrubs; requires water; maternity season from late May through early July; usually does not	Yes	Suitable potential habitat for this species occurs on the Project site. The almond orchard to the north and the fallow cropland to the south of the site provide potential foraging habitat. The canal that runs through the Project site provides a potential water source for this species. There are no recorded occurrences for the species within 10-miles of the Project site.

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
		roost with other bats; rabies is common in this species.		
<i>Lasiurus cinereus</i> hoary bat	-/- -/-	Can be found anywhere in California from sea level to 13,200 feet; winters on coast and in southern California; breeds inland and north of winter range; bear young in woodlands and forests; feeds primarily on moths; roosts in dense foliage of medium-large trees; requires water; prefer open habits or habitat mosaics; maternity season from mid-May through early July; forages with other bat species; high incidence of rabies.	Yes	There are orchard trees on the Project site which maintained would provide poor roosting habitat but the orchard is not maintained posing a low possibility of species presence. There is a water source and there is open habitat along the southern portion of the Project site. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Myotis yumanensis</i> Yuma myotis	-/- -/-	Common throughout California except desert regions; wide variety of habitats from sea level to 11,000 feet; prefers open forests and woodlands with sources of water; forages for small fly insects over water sources; roosts in buildings, mines, caves, or crevices, occasionally in swallow nests and under bridges; large maternity colonies; maternity season from late May through June, sometimes August.	Yes	There is a bridge that occurs along the northeast section of the site which may provide potential roosting habitat for this species. There are no recorded occurrences for the species within 10-miles of the Project site.
<i>Taxidea taxus</i> American badger	-/- -/-SSC	Occurs mostly in open, drier stages of shrub, forest, and herbaceous habitats, with friable soils; feeds mostly on fossorial rodents; digs burrows for cover and reproduction; can dig new den each night; litters born mostly in March and April; somewhat tolerant of human activities, but avoids cultivated agricultural habitats.	Yes	The Project site has historically been used for agricultural purposes. The site is highly disturbed and the southern section has been regularly disturbed. There were burrows greater than 4 inches in diameter observed in the northern section, however, that could provide potential suitable habitat. There are no recorded occurrences for the

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	FE/ST -/-	Endemic to the Central Valley; found primarily in San Joaquin Valley, Carrizo Plain, Salinas Valley, Cuyama Valley, and other small valleys in western foothills; occurs in arid to semi-arid grasslands, open shrublands, savannahs, and grazed lands with loose-textured soils; highly adaptable and documented in urban developed areas; uses burrows year-round for shelter, escape from predators, and rearing young; will use man-made structures, such as pipes, for denning; feeds primarily on small mammals, but will also consume birds, reptiles, insects, and scavenge for human food; intensively-maintained agricultural areas avoided; threatened by habitat loss and fragmentation, vehicle strikes, and disease; current mange outbreak in urban population in Bakersfield and in nearby natural areas.	Yes	species within 10-miles of the Project site. Suitable denning habitat for this species potentially occurs on the north section of the Project site where burrows were observed greater than 4 inches in diameter. There are no recorded occurrences for the species within 10-miles of the Project site.
CRPR (California Rare Plant Rank):			FE	Federally Endangered
1A	Presumed Extinct in California		FT	Federally Threatened
1B	Rare, Threatened, or Endangered in California and elsewhere		FC	Federal Candidate Species
2A	Plants presumed extirpated in California, but more common elsewhere		FS	Federally Sensitive
2B	Plants Rare, Threatened, or Endangered in California, but more common elsewhere		SE	State Endangered
CRPR Threat Code Extension:			ST	State Threatened
.1	Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)		SC	State Candidate
			SS	State Sensitive
.2	Fairly endangered in California (20-80% occurrences threatened)		SSC	State Species of Special Concern
.3	Not very endangered in California (<20% of occurrences threatened)		SFP	State Fully Protected
			SR	State Rare
			WL	Watch List

APPENDIX C
CULTURAL RECORDS SEARCH



CENTRAL CALIFORNIA INFORMATION CENTER

California Historical Resources Information System
 Department of Anthropology – California State University, Stanislaus
 One University Circle, Turlock, California 95382
 (209) 667-3307

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

Date: August 8, 2019

CCaIC Records Search File #: 11161 I

Re: Project: Proposed development of parcel
 APN 047-090-004, NW corner Bird St.,
 Livingston, CA

Amber Williams, Assistant Planner
 QK, Inc.
 2816 Park Avenue
 Merced, CA 95348

Email: amber.williams@qkinc.com

RECEIVED

AUG 12 2019

QK, INC.

Dear Ms. Williams,

We have conducted a records search as per your request for the above-referenced project area located on the Cressey USGS 7.5-minute quadrangle map in Merced County.

Search of our files includes review of our maps for the specific project area and the immediate vicinity of the project area, and review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the *California Inventory of Historic Resources* (1976), the *California Historical Landmarks* (1990), and the California Points of Historical Interest listing (May 1992 and updates), the Directory of Properties in the Historic Property Data File (HPDF) and the Archaeological Determinations of Eligibility (ADOE) (Office of Historic Preservation current electronic files dated 03-20-2014 and 04-05-2012, respectively), the *Survey of Surveys* (1989), the Caltrans State and Local Bridges Inventory, GLO Plats, and other pertinent historic data available at the CCaIC for each specific county.

The following details the results of the records search:

Prehistoric or historic resources within the project area:

No prehistoric or historic-era archaeological resources have been reported to the CCaIC.

Historic properties, buildings, or structures:

- A portion of the Hammatt Lateral Canal has been formally recorded and evaluated where it intersects Bird Street; Primary file #P-24-001637; page 5 of the HPDF printout indicates status code 6Y (ineligible for the NRHP; not evaluated for CRHR or local listing). Historic USGS maps indicate that, over the years, the alignment of the lateral canal may have been altered to a small extent where it is within the property.

- We have had several records submitted for a proposed historic district, the MID, Primary file #P-24-001909; the boundaries subsume this area, and the proposed district potentially includes the Hammatt Lateral (and hundreds of other features), but the lateral does not appear to have been recorded or evaluated in relation to this district yet. The proposed district does not have an entry on the HPDF printout (so no formal determination of eligibility—or otherwise—from SHPO is on file), and several consultants have given varying statements regarding the district's perceived NRHP eligibility.
- The HPDF printout page 5 also has an entry for Bridge 39C-0149 (blt. 1930, wooden bridge on Bird Street over Hammatt Lateral), status code 6Y; however, this bridge appears to have been bypassed and removed.

Prehistoric or historic resources within the immediate vicinity of the project area:

No prehistoric or historic-era archaeological resources have been reported to the CCalIC.

Historic properties, buildings, or structures:

- The Livingston Canal has been formally recorded, file #P-24-000552. The HPDF printout page 34 indicates status code 6y where it was evaluated where it intersects Almond Road in Winton. Other statements by evaluating consultants appear to agree with this determination for the canal as a whole. Regarding the MID proposed district, at least one consultant has inventoried this canal as a contributing element.

Resources that are known to have value to local cultural groups:

None have been formally reported to the Information Center.

Previous investigations within the project area: 3 have been reported for this area:

Possible narrow survey corridor through the property? Difficult to tell from report:

CCaIC Report ME-02972

Napton, L. K. (1997)

Cultural Resource Investigations of the Proposed Merced Irrigation District, Atwater-Merced 115-kV Loop, Merced County, California.

Contains cultural resources overview for wide area; no field survey:

CCaIC Report ME-03631

Quad Knopf (1999)

1999 General Plan, Livingston, California.

Evaluation of Hammatt Lateral and Bird Street Bridge at that location:

CCaIC Report ME-07535

LSA Associates, Inc. (2004)

Positive Historic Property Survey Report, Hammatt Lateral/Bird Road Bridge Replacement Project, 10-MER-Bird Road-39C0149, Livingston, California.

Previous investigations immediately adjacent: 1 has been reported:

Survey of wastewater treatment plant project area:

CCaIC Report ME-00634

Napton, L. K. (1982)

Cultural Resource Reconnaissance of the Livingston Industrial Wastewater Treatment Facilities in Merced County, California.

Recommendations/Comments: Based on existing data in our files the project area has a moderate sensitivity for the possible discovery of prehistoric archaeological resources, due to the proximity of the Merced River and its southern terraces. Site constituents may be fragmentary on the surface, but more intact *under the surface*—prehistoric Native American sites/features *have* been encountered under the plow zone in many areas in California. We recommend survey by a qualified professional archaeologist, prior to any project-related activities. We also recommend caution and vigilance during any excavation or trenching, should the proposed project proceed. As to the Hammatt Lateral, we offer no recommendations for further study at this time, unless the canal will be altered or removed. The Statewide Referral List for Historical Resources Consultants is posted for your use on the internet at <http://chrisinfo.org>

Please be advised that a historical resource is defined as a building, structure, object, prehistoric or historic archaeological site, or district possessing physical evidence of human activities over 45 years old. Since the project area has not been subject to previous investigations, there may be unidentified features involved in your project that are 45 years or older and considered as historical resources requiring further study and evaluation by a qualified professional of the appropriate discipline.

If archaeological resources are encountered, work should be temporarily halted in the vicinity of the discovered materials and workers should avoid altering the materials and their context until a qualified professional archaeologist has evaluated the situation and provided appropriate recommendations. Project personnel should not collect cultural resources.

If human remains are discovered, California Health and Safety Code Section 7050.5 requires you to protect the discovery and notify the county coroner, who will determine if the find is Native American. If the remains are recognized as Native American, the coroner shall then notify the Native American Heritage Commission (NAHC). California Public Resources Code Section 5097.98 authorizes the NAHC to appoint a Most Likely Descendant (MLD) who will make recommendations for the treatment of the discovery.

We further advise you that if you retain the services of a historical resources consultant, the firm or individual you retain is responsible for submitting any report of findings prepared for you to the Central California Information Center, including one copy of the narrative report and copies of any records that document historical resources found as a result of field work, preferably in PDF format. If the consultant wishes to obtain copies of materials not included with this records search reply, additional copy or records search fees may apply.

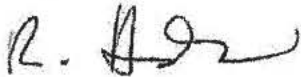
Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the State Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

We thank you for contacting this office regarding historical resource preservation. Please let us know when we can be of further service. Please sign and return the attached **Access Agreement Short Form**.

Note: Billing will be transmitted separately via email from the Financial Services office (\$150.00), payable within 60 days of receipt of the invoice.

Sincerely,



Robin Hards, Assistant Research Technician
Central California Information Center
California Historical Resources Information System

Copy of invoice to Laurie Marroquin, Financial Services (lamarroquin@csustan.edu)



CENTRAL CALIFORNIA INFORMATION CENTER

California Historical Resources Information System

Department of Anthropology - California State University, Stanislaus

One University Circle, Turlock, California 95382

(209) 667-3307 - ~~FAX (209) 667-3304~~

Email: EGreathouse@csustan.edu

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

California Historical Resources Information System

ACCESS AGREEMENT SHORT FORM

Number: 11161 I

I, the undersigned, have been granted access to historical resources information on file at the **Central California Information Center** of the California Historical Resources Information System.

I understand that any CHRIS Confidential Information I receive shall not be disclosed to individuals who do not qualify for access to such information, as specified in Section III(A-E) of the CHRIS Information Center Rules of Operation Manual, or in publicly distributed documents without written consent of the Information Center Coordinator. (no confidential information received by client)

I agree to submit historical Resource Records and Reports based in part on the CHRIS information released under this Access Agreement to the Information Center within sixty (60) calendar days of completion.

I agree to pay for CHRIS services provided under this Access Agreement within sixty (60) calendar days of receipt of billing.

I understand that failure to comply with this Access Agreement shall be grounds for denial of access to CHRIS Information.

Print Name: _____ Date: _____

Signature: _____

Affiliation: _____

Address: City/State/Zip: _____

Billing Address (if different from above): _____

Telephone: _____ Fax: _____ Email: _____

Purpose of Access: records search

Reference (project name or number, title of study, and street address if applicable):

Proposed development of APN 047-090-004, Livingston, CA

County: Township/Range/Section or UTM: Merced Co., T6S/R11E por. Sec. 23

USGS 7.5' Quad: Cressey

APPENDIX D
GEOTECHNICAL ENGINEERING INVESTIGATION

**GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED LIGHT INDUSTRIAL DEVELOPMENT
BIRD STREET
LIVINGSTON, CALIFORNIA**

**PROJECT NO. 072-19046
SEPTEMBER 13, 2019**

Prepared for:

**MS. JANEL FREEMAN
QK
P.O. BOX 3699
VISALIA, CALIFORNIA 93278**

Prepared by:

**KRAZAN & ASSOCIATES, INC.
GEOTECHNICAL ENGINEERING DIVISION
448 MITCHELL ROAD SUITE C
MODESTO, CALIFORNIA 95354
(209) 572-2200**



GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

September 13, 2019

Project No. 072-19046

Ms. Janel Freeman
QK
P.O. Box 3699
Visalia, California 93278

**RE: Geotechnical Engineering Investigation
Proposed Light Industrial Development
Bird Street
Livingston, California**

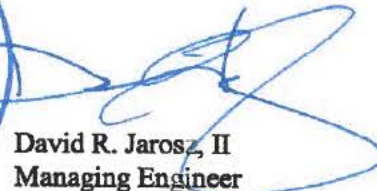
Dear Ms. Freeman:

In accordance with your request, we have completed a Geotechnical Engineering Investigation for the above-referenced site. The results of our investigation are presented in the attached report.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (209) 572-2200.



Respectfully submitted,
KRAZAN & ASSOCIATES, INC.


David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

DRJ:ht

Offices Serving The Western United States

448 Mitchell Road, Suite C • Modesto CA 95354 • (209) 572-2200 • Fax: (209) 572-2206

07219046 Report (Light Industrial Dev).doc

TABLE OF CONTENTS

INTRODUCTION	1
PURPOSE AND SCOPE.....	1
PROPOSED CONSTRUCTION.....	2
SITE LOCATION AND SITE DESCRIPTION	2
GEOLOGIC SETTING	2
FIELD AND LABORATORY INVESTIGATIONS	3
SOIL PROFILE AND SUBSURFACE CONDITIONS	4
GROUNDWATER.....	4
SOIL LIQUEFACTION	5
CONCLUSIONS AND RECOMMENDATIONS.....	6
Administrative Summary	6
Groundwater Influence on Structures/Construction	7
Site Preparation.....	7
Engineered Fill.....	9
Drainage and Landscaping.....	9
Utility Trench Backfill.....	9
Foundations - Conventional	10
Floor Slabs and Exterior Flatwork.....	11
Lateral Earth Pressures and Retaining Walls.....	12
R-Value Test Results and Pavement Design.....	12
Seismic Parameters – 2016 CBC	13
Soil Cement Reactivity	14
Compacted Material Acceptance	14
Testing and Inspection	14
LIMITATIONS.....	15
SITE PLAN	17
LOGS OF BORINGS (1 TO 6).....	Appendix A
GENERAL EARTHWORK SPECIFICATIONS	Appendix B
GENERAL PAVING SPECIFICATIONS.....	Appendix C

September 13, 2019

Project No. 072-19046

**GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED LIGHT INDUSTRIAL DEVELOPMENT
BIRD STREET
LIVINGSTON, CALIFORNIA**

INTRODUCTION

This report presents the results of our Geotechnical Engineering Investigation for the proposed Light Industrial Development to be located at Bird Street, approximately 0.4 miles west of Main Street in Livingston, California. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, Engineered Fill, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior flatwork, retaining walls, soil cement reactivity, and pavement design.

A site plan showing the approximate boring locations is presented following the text of this report. A description of the field investigation, boring logs, and the boring log legend are presented in Appendix A. Appendix A also contains a description of the laboratory-testing phase of this study, along with the laboratory test results. Appendices B and C contain guides to earthwork and pavement specifications. When conflicts in the text of the report occur with the general specifications in the appendices, the recommendations in the text of the report have precedence.

PURPOSE AND SCOPE

This investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in design of specific construction elements, and to provide criteria for site preparation and Engineered Fill construction.

Our scope of services was outlined in our proposal dated July 24, 2019 (KA Proposal No. P462-19) included the following:

- A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.
- A field investigation consisting of drilling 6 borings to depths ranging from approximately 10 to 50 feet for evaluation of the subsurface conditions at the project site.
- Performing laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.

- Evaluation of the data obtained from the investigation and an engineering analysis to provide recommendations for use in the project design and preparation of construction specifications.
- Preparation of this report summarizing the results, conclusions, recommendations, and findings of our investigation.

PROPOSED CONSTRUCTION

We understand that design of the proposed development is currently underway; structural load information and other final details pertaining to the structures are unavailable. On a preliminary basis, it is understood that development will include a light industrial development. It is anticipated the buildings will be single- or two-story structures utilizing shallow conventional foundations and concrete slab-on-grade construction. Foundation loads are anticipated to be light to moderate. On-site paved areas are also planned for the development of the project.

In the event, these structural or grading details are inconsistent with the final design criteria, the Soils Engineer should be notified so that we may update this writing as applicable.

SITE LOCATION AND SITE DESCRIPTION

The site is rectangular in shape and encompasses approximately 21 acres. The site is located approximately 0.4 miles west of Main Street, just north of Bird Street in Livingston, California. The site is predominately surrounded by agricultural land.

Presently, the majority of the site is occupied by an orchard. The southern 1/3 of the site predominately consists of fallow agricultural land. A canal trends southwest-northeast through the site. Buried utility lines and irrigation lines trend through portions of the site. The surface soils have a loose consistency. With the exception of the canal banks, the site is relatively level with no major changes in grade.

GEOLOGIC SETTING

The San Joaquin Valley which includes the Livingston area, is a topographic and structural basin that is bounded on the east by the Sierra Nevada Mountains and on the west by the Coast Ranges. The Sierra Nevadas, a fault block dipping gently southwestward, is made up of igneous and metamorphic rocks of pre-Tertiary age that comprise the basement complex beneath the Valley. The Coast Ranges contain folded and faulted sedimentary rocks of Mesozoic and Cenozoic age which are similar to those rocks that underlie the Valley at depth and nonconformably overlie the basement complex; gently dipping to nearly horizontal sedimentary rocks of Tertiary and Quaternary age overlie the older rocks. These younger rocks are mostly of continental origin and in the Livingston area; they were derived from the Sierra Nevadas.

The Coast Ranges evolved as a result of folding, faulting, and accretion of diverse geologic terrains. They are composed chiefly of sedimentary and metamorphic rocks that are sharply deformed into complex structures. They are broken by numerous faults, the San Andreas Fault being the most notable structural feature.

Both the Sierra Nevada and Coast Ranges are geologically young mountain ranges and possess active and potentially active fault zones. Major active faults and fault zones occur at some distance to the east, west, and south of the Livingston area. The Owens Valley Fault Zone bounds the eastern edge of the Sierra Nevada block and contains both active and potentially active faults.

Portions of the Greenville, Calaveras, Hayward, and Rinconada Faults, which are to the west, are considered potentially active. The San Andreas Fault is possibly the best known fault and is located about 60 to 70 miles to the west.

There are no active fault traces in the project vicinity. Accordingly, the project area is not within an Earthquake Fault Zone (Special Studies Zone) and will not require a special site investigation by an Engineering Geologist.

Livingston residents could feel the effects of a large seismic event on one of the nearby active or potentially active fault zones. Livingston has experienced groundshaking from earthquakes in the historical past. According to the County Seismic Safety Element, groundshaking of VI intensity (Modified Mercalli Scale) was felt in Livingston from the 1872 Owens Valley Earthquake. This is the largest known earthquake event affecting the Livingston area.

Secondary hazards from earthquakes include rupture, seiche, landslides, liquefaction, and subsidence. Since there are no known faults within the immediate area, ground rupture from surface faulting should not be a potential problem. Seiche and landslides are not hazards in the area either. Liquefaction potential (sudden loss of shear strength in a saturated cohesionless soil) should be low since groundshaking intensities within the vicinity are not strong enough to generate this type of failure. In addition, there are no known occurrences of structural or architectural damage due to deep subsidence in the Livingston area.

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling 6 borings to depths ranging from approximately 10 to 50 feet below existing site grade, using a truck-mounted drill rig. In addition, 2 bulk subgrade samples were obtained from the site for laboratory R-value testing. The approximate boring and bulk sample locations are shown on the site plan. During drilling operations, penetration tests were performed at regular intervals to evaluate the soil consistency and to obtain information regarding the engineering properties of the subsoils. Soil samples were retained for laboratory testing. The soils encountered were continuously examined and visually classified in accordance with the Unified Soil Classification System. A more detailed description of the field investigation is presented in Appendix A.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory-testing program was formulated with emphasis on the evaluation of natural moisture, density, gradation, shear strength, consolidation potential, atterberg limits, R-value, and moisture-density relationships of the materials encountered. In addition, chemical tests were

performed to evaluate the corrosivity of the soils for buried concrete and metal. Details of the laboratory test program and results of the laboratory tests are summarized in Appendix A. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered appear typical of those found in the geologic region of the site. In general, the surface soils consisted of approximately 6 to 12 inches of very loose silty sand. These soils are disturbed have low strength characteristics and are highly compressible when saturated.

Approximately 6 inches to 3 feet of fill material was encountered within portions of the site associated with the canal banks and irrigation furrows. The fill material predominately consisted of silty sand. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Limited testing was performed on the fill soils during the time of our field and laboratory investigation. Preliminary testing on the fill material suggest that the fill soils have varying strength characteristics ranging from loosely placed to compacted.

Below the loose surface soils and fill material, approximately 2 to 3 feet of loose to medium dense silty sand was encountered. Field and laboratory tests suggest that these soils are moderately strong and slightly compressible. Penetration resistance ranged from 10 to 28 blows per foot. Dry densities ranged from 106 to 114 pcf. A representative soil sample consolidated approximately 2½ percent under a 2 ksf load when saturated. A representative soil sample had an angle of internal friction of 34 degrees

Below approximately 3 to 4 feet, layers of loose to very dense silty sand, sandy silt, silty sand/sand or sand were encountered. Some of these soils were weakly cemented in parts. Field and laboratory tests suggest that these soils are moderately strong and slightly compressible. Penetration resistance ranged from 13 blows per foot to greater than 50 blows per 6 inches. Dry densities ranged from 84 to 127 pcf. Representative soil samples contained approximately 6 to 68 percent fines. These soils had slightly stronger strength characteristics than the upper soils and extended to the termination depth of our borings.

For additional information about the soils encountered, please refer to the boring logs in Appendix A.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during and immediately following the drilling operations. Free groundwater was not encountered within a depth of 50 feet during our exploratory drilling. However, information obtained from the State of California Department of Water Resources indicates that historically groundwater has been as shallow as 7 feet within the project site vicinity.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

SOIL LIQUEFACTION

Soil liquefaction is a state of soil particle suspension, caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs in soils, such as sands, in which the strength is purely frictional. However, liquefaction has occurred in soils other than clean sands. Liquefaction usually occurs under vibratory conditions, such as those induced by seismic events.

To evaluate the liquefaction potential of the site, the following items were evaluated:

- 1) Soil type
- 2) Groundwater depth
- 3) Relative density
- 4) Initial confining pressure
- 5) Intensity and duration of groundshaking

The predominant soils within the project site consist of alternating layers of silty sand, sandy silt, sand, and silty sand/sand. Free groundwater was not encountered within a depth of 50 feet below existing site grade during our exploratory drilling. Information obtained from the Department of Water Resources indicated that water wells at the general vicinity had historic groundwater elevations recorded from a period of 1958 to 2008 to be as high as 7 feet below site grade.

The potential for soil liquefaction during a seismic event was evaluated using the LIQUEFYPRO computer program (version 5.8h) developed by CivilTech Software. For the analysis, a maximum earthquake magnitude of 6.27 was used. A peak horizontal ground surface acceleration of 0.347g was considered conservative and appropriate for the liquefaction analysis. An estimated high groundwater depth of 7 feet was used for our analysis. The computer analysis indicates that soils above a depth of 7 feet are non-liquefiable due to the absence of groundwater. The soils below a depth of 7 feet have a slight to low potential for liquefaction under seismic shaking due to predominately medium dense silty sand and sand soils and the anticipated low seismicity in the region. The analysis also indicates that the estimated total seismic induced settlement is not anticipated to exceed 1¼ inches. Differential settlement caused by a seismic event is estimated to be less than ¾ inch. The anticipated differential settlement is estimated over the width of the building.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

Administrative Summary

In brief, the subject site and soil conditions, with the exception of the fill material and existing development, appear to be conducive to the development of the project. Approximately 6 inches to 3 feet of fill material was encountered within portions of the site. The fill material predominately consisted of silty sand. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Limited testing was performed on the fill soils during the time of our field and laboratory investigations. The limited testing indicates that the fill soils had varying strength characteristics ranging from loosely placed to compacted. Therefore, it is recommended the fill soils be excavated and recompacted. The fill material should be moisture-conditioned as necessary and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Prior to fill placement Krazan & Associates, Inc. should inspect the bottom of the excavation to verify no additional removal will be required.

In order to reduce the potential for differential settlement and provide uniform support for the planned structures, it is recommended that following stripping, fill removal operations, and demolition activities, the upper 12 inches of exposed subgrade within proposed building areas be excavated, worked until uniform and free from large clods, moisture-conditioned as necessary, and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Over-excavation should extend to a minimum of 5 feet beyond proposed footing lines. The excavation should be backfilled with Engineered Fill, compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Prior to fill placement, Krazan & Associates, Inc. should inspect the bottom of the excavation to verify no additional removal will be required.

Presently, the site is utilized as agricultural land. An orchard occupies portions of the site. A canal trends through portions of the site. Associated with these developments are buried structures, such as utility lines and irrigation lines that trend along the edges of the site and may extend into portions of the site. Demolition activities should include proper removal of any buried structures encountered during construction. Any buried structures or utilities encountered during construction should be properly removed and/or relocated. It is suspected that demolition activities of the existing pavement and related structures will disturb the upper soils. Following demolition activities, the exposed subgrade should be cleaned to firm native ground. The resulting excavation should be backfilled with Engineered Fill, compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

An irrigation canal trends roughly northeast to southwest across the site. All deleterious materials and loose soils should be removed from the canal and the resulting excavation should be cleaned to firm native soil and backfilled with Engineered Fill compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy soils.

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structure footings may be designed utilizing an allowable bearing pressure of 2,500 psf for dead-plus-live loads. Footings should have a minimum embedment of 18 inches.

Groundwater Influence on Structures/Construction

Based on our findings and historical records, it is not anticipated that groundwater will rise within the zone of structural influence or affect the construction of foundations and pavements for the project. However, if earthwork is performed during or soon after periods of precipitation, the subgrade soils may become saturated, "pump," or not respond to densification techniques. Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material; or mixing the soil with an approved lime or cement product. Our firm should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

Site Preparation

General site clearing should include removal of vegetation; asphalt; debris; existing utilities; structures including foundations; basement walls and floors; existing stockpiled soil; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. Site stripping should extend to a minimum depth of 2 to 4 inches, or until all organics in excess of 3 percent by volume are removed. Deeper stripping may be required in localized areas. These materials will not be suitable for use as Engineered Fill. However, stripped topsoil may be stockpiled and reused in landscape or non-structural areas.

Approximately 6 inches to 3 feet of fill material was encountered within portions of the site. The fill material predominately consisted of silty sand. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Limited testing was performed on the fill soils during the time of our field and laboratory investigations. Preliminary testing on the fill material indicates that the fill soils ranged from loosely placed to compacted. Therefore, it is recommended that the fill soils be excavated and stockpiled so that the native soils can be properly prepared. The fill material should be moisture-conditioned as necessary and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Prior to fill placement Krazan & Associates, Inc. should inspect the bottom of the excavation to verify no additional removal will be required.

Several structures are located within the project site vicinity. In addition, the site is presently utilized as agricultural land. Furthermore, a canal trends through portions of the site. Associated with these developments are buried structures, such as utility lines and irrigation lines that may extend into portions of the site. Demolition activities should include proper removal of any buried structures. Any

surface or buried structures including utilities encountered during construction should be properly removed and/or relocated. The resulting excavations should be cleaned to firm native ground and backfilled with Engineered Fill, compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Excavations, depressions, or soft and pliant areas extending below planned finish subgrade level should be cleaned to firm undisturbed soil, and backfilled with Engineered Fill. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Concrete footings should be removed to an equivalent depth of at least 3 feet below proposed footing elevations or as recommended by the Soils Engineer. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. The resulting excavations should be backfilled with Engineered Fill.

An irrigation canal trends roughly northeast to southwest across the site. All deleterious materials and loose soils should be removed from the canal and the resulting excavation should be cleaned to firm native soil and backfilled with Engineered Fill compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Following stripping, fill removal operations, and demolition activities, the exposed subgrade in exterior flatwork and pavement areas should be excavated/scarified to a depth of at least 12 inches, worked until uniform and free from large clods, moisture-conditioned as necessary and recompactd to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Limits of recompaction should extend 2 feet beyond the edge of pavements or flatwork. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

In order to reduce the potential for differential settlement and provide uniform support for the planned structures, it is recommended that following stripping, fill removal operations, and demolition activities, the upper 12 inches of the exposed subgrade within the proposed building areas be excavated, worked until uniform and free from large clods, moisture-conditioned as necessary, and recompactd to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Over-excavation should extend to a minimum of 5 feet beyond proposed footing lines. The excavation should be backfilled with Engineered Fill, compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Prior to fill placement, the bottom of the excavation should be proofrolled and observed by Krazan & Associates, Inc. to verify stability. Soft or pliant areas should be excavated to firm native grade.

The upper soils, during wet winter months, become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability

requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

Engineered Fill

The upper on-site native soils and fill material predominately consist of silty sand, sandy silt and sand. These soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics and debris.

The proposed materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since he has complete control of the project site at that time.

Imported Fill material should be predominately non-expansive granular material with a plasticity index less than 10 and a UBC Expansion Index less than 15. Imported Fill should be free from rocks and clods greater than 4 inches in diameter. All Imported Fill material should be submitted to the Soils Engineer for approval at least 48 hours prior to delivery at the site.

Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned as necessary, and compacted to achieve at least 90 percent maximum density based on ASTM Test Method D1557. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

Drainage and Landscaping

The ground surface should slope away from building pad and pavement areas toward appropriate drop inlets or other surface drainage devices. In accordance with Section 1804 of the 2016 California Building Code, it is recommended that the ground surface adjacent to foundations be sloped a minimum of 5 percent for a minimum distance of 10 feet away from structures, or to an approved alternative means of drainage conveyance. Swales used for conveyance of drainage and located within 10 feet of foundations should be sloped a minimum of 2 percent. Impervious surfaces, such as pavement and exterior concrete flatwork, within 10 feet of building foundations should be sloped a minimum of 1 percent away from the structure. Drainage gradients should be maintained to carry all surface water to collection facilities and off-site. These grades should be maintained for the life of the project.

Utility Trench Backfill

Utility trenches should be excavated according to accepted engineering practices following OSHA (Occupational Safety and Health Administration) standards by a Contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the Contractor. Traffic and vibration adjacent to trench walls should be reduced; cyclic wetting and drying of excavation side

slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation.

Sandy and gravelly soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy and gravelly soils.

Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 90 percent of maximum density based on ASTM Test Method D1557. The utility trench backfill placed in pavement areas should be compacted to at least 90 percent of maximum density based on ASTM Test Method D1557. Pipe bedding should be in accordance with pipe manufacturer's recommendations.

The Contractor is responsible for removing all water-sensitive soils from the trench regardless of the backfill location and compaction requirements. The Contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

Foundations - Conventional

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structures may be supported on a shallow foundation system bearing on undisturbed native soils or Engineered Fill. Spread and continuous footings with a minimum embedment depth of 18 inches supported on a minimum of 12 inches of Engineered Fill can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	1,875 psf
Dead-Plus-Live Load	2,500 psf
Total Load, including wind or seismic loads	3,325 psf

Spread and continuous footings with a minimum embedment depth of 12 inches supported on a minimum of 12 inches of Engineered Fill can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	1,500 psf
Dead-Plus-Live Load	2,000 psf
Total Load, including wind or seismic loads	2,650 psf

The footings should have a minimum embedment depth of 12 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Footings should have a minimum width of 12 inches, regardless of load.

The total settlement caused by static loads is not expected to exceed 1 inch. Differential settlement associated with static loads should be less than $\frac{1}{2}$ inch. Most of the movement is expected to occur during construction as the loads are applied. However, additional post-construction movement may occur if the foundation soils are flooded or saturated.

Based on the soil liquefaction analysis performed within the site, the estimated total seismic-induced settlement is not expected to exceed $1\frac{1}{4}$ inches. Differential settlement caused by a seismic event is estimated to be less than $\frac{3}{4}$ inch. The anticipated differential settlement is estimated over 100 feet. The seismic settlements would develop if liquefaction of the underlying saturated subsoils were to occur during a seismic event.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.4 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an equivalent fluid passive pressure of 350 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A $\frac{1}{3}$ increase in the above value may be used for short duration, wind, or seismic loads.

Floor Slabs and Exterior Flatwork

In areas where moisture-sensitive floor coverings will be included, concrete slab-on-grade floors should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with accepted engineering practice. The water vapor retarder should consist of a vapor retarder sheeting underlain by a minimum of 3 inches of compacted, clean, gravel of $\frac{3}{4}$ -inch maximum size. To aid in concrete curing an optional 2 to 4 inches of granular fill may be placed on top of the vapor retarder. The granular fill should consist of damp clean sand with at least 10 to 30 percent of the sand passing the 100 sieve. The sand should be free of clay, silt, or organic material. Rock dust which is manufactured sand from rock crushing operations is typically suitable for the granular fill. This granular fill material should be compacted.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. All fills required to bring the building pads to grade should be Engineered Fills.

Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor can travel through the vapor membrane and penetrate the slab-on-grade. This moisture vapor penetration can affect floor coverings and produce mold and mildew in the structure. To reduce moisture vapor intrusion, it is recommended that a vapor retarder be installed. It is recommended that the utility trenches within the structure be compacted, as specified in our report, to reduce the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the building is recommended. Positive drainage should be

established away from the structure and should be maintained throughout the life of the structure. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed. In addition, ventilation of the structure (i.e. ventilation fans) is recommended to reduce the accumulation of interior moisture.

Lateral Earth Pressures and Retaining Walls

Walls retaining horizontal backfill and capable of deflecting a minimum of 0.1 percent of its height at the top may be designed using an equivalent fluid active pressure of 31 pounds per square foot per foot of depth. Walls that are incapable of this deflection or walls that are fully constrained against deflection may be designed for an equivalent fluid at-rest pressure of 52 pounds per square foot per foot per depth. Expansive soils should not be used for backfill against walls. The wedge of non-expansive backfill material should extend from the bottom of each retaining wall outward and upward at a slope of 2:1 (horizontal to vertical) or flatter. The stated lateral earth pressures do not include the effects of hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the retaining walls; or loads imposed by construction equipment, foundations, or roadways. All of the above earth pressures are unfactored and are, therefore, not inclusive of factors of safety.

During grading and backfilling operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand operated equipment ("whackers," vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

R-Value Test Results and Pavement Design

Two subgrade soil samples were obtained from the project site for R-value testing at the locations shown on the attached site plan. The samples were tested in accordance with the State of California Materials Manual Test Designation 301. Results of the tests are as follows:

Sample	Depth	Description	R-Value at Equilibrium
1	12-24"	Silty Sand (SM)	59
2	12-24"	Silty Sand (SM)	58

The test results are moderate and indicate good subgrade support characteristics under dynamic traffic loads. The following table shows the recommended pavement sections for various traffic indices.

Traffic Index	Asphaltic Concrete	Class II Aggregate Base*	Compacted Subgrade**
4.0	2.0"	4.0"	12.0"
4.5	2.5"	4.0"	12.0"
5.0	2.5"	4.0"	12.0"

5.5	3.0"	4.0"	12.0"
6.0	3.0"	4.0"	12.0"
6.5	3.5"	4.0"	12.0"
7.0	4.0"	4.0"	12.0"
7.5	4.0"	4.0"	12.0"

* 95% compaction based on ASTM Test Method D1557 or CAL 216

** 90% compaction based on ASTM Test Method D1557 or CAL 216

If traffic indices are not available, an estimated (typical value) index of 4.5 may be used for light automobile traffic, and an index of 7.0 may be used for light truck traffic.

The following recommendations are for light-duty and heavy-duty Portland Cement Concrete Pavement Sections based on the design procedures developed by the Portland Cement Association.

PORTLAND CEMENT PAVEMENT LIGHT DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
4.5	5.0"	--	12.0"

HEAVY DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
7.0	6.5"	—	12.0"

* 95% compaction based on ASTM Test Method D1557 or CAL 216

** 90% compaction based on ASTM Test Method D1557 or CAL 216

***Minimum compressive strength of 3000 psi

As indicated previously, fill material is located on the site. It is recommended that any uncertified fill material encountered within pavement areas be removed and/or recompact. The fill material should be moisture-conditioned to near optimum moisture and recompact to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. As an alternative, the Owner may elect not to recompact the existing fill within paved areas. However, the Owner should be aware that the paved areas may settle, which may require annual maintenance. At a minimum, it is recommended that the upper 12 inches of subgrade soil be moisture-conditioned as necessary and recompact to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Seismic Parameters – 2016 California Building Code

The Site Class per Section 1613 of the 2016 California Building Code (2016 CBC) and Table 20.3-1 of ASCE 7-10 is based upon the site soil conditions. It is our opinion that a Site Class D is most consistent with the subject site soil conditions. For seismic design of the structures based on the seismic provisions of the 2016 CBC, we recommend the following parameters:

Seismic Item	Value	CBC Reference
Site Class	D	Section 1613.3.2
Site Coefficient F_a	1.187	Table 1613.3.3 (1)
S_s	0.781	Section 1613.3.1
S_{MS}	0.928	Section 1613.3.3
S_{DS}	0.619	Section 1613.3.4
Site Coefficient F_v	1.792	Table 1613.3.3 (2)
S_1	0.304	Section 1613.3.1
S_{M1}	0.545	Section 1613.3.3
S_{D1}	0.363	Section 1613.3.4

Soil Cement Reactivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and UBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentrations detected from these soil samples were less than 150 ppm and are below the maximum allowable values established by HUD/FHA and UBC. Therefore, no special design requirements are necessary to compensate for sulfate reactivity with the cement.

Compacted Material Acceptance

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. However, the compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. The numerical test results from the compaction test cannot be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent on the stability of that material. The Soils Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be unstable or if future instability is suspected. A specific example of rejection of fill material passing the required percent compaction is a fill which has been compacted with an in situ moisture content significantly less than optimum moisture. This type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

Testing and Inspection

A representative of Krazan & Associates, Inc. should be present at the site during the earthwork activities to confirm that actual subsurface conditions are consistent with the exploratory fieldwork. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. This representative can also verify that the intent

of these recommendations is incorporated into the project design and construction. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

LIMITATIONS

Soils Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using the most appropriate and most current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Soils Engineering, physical changes in the site, either due to excavation or fill placement, new agency regulations, or possible changes in the proposed structure after the soils report is completed may require the soils report to be professionally reviewed. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that 2 years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. If any variations or undesirable conditions are encountered during construction, the Soils Engineer should be notified so that supplemental recommendations may be made.

The conclusions of this report are based on the information provided regarding the proposed construction. If the proposed construction is relocated or redesigned, the conclusions in this report may not be valid. The Soils Engineer should be notified of any changes so the recommendations may be reviewed and re-evaluated.


This report is a Geotechnical Engineering Investigation with the purpose of evaluating the soil conditions in terms of foundation design. The scope of our services did not include any Environmental Site Assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere; or the presence of wetlands. Any statements, or absence of statements, in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous and/or toxic assessment.

The geotechnical engineering information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. We emphasize that this report is valid for the project outlined above and should not be used for any other sites.

If you have any questions or if we may be of further assistance, please do not hesitate to contact our office at (209) 572-2200.

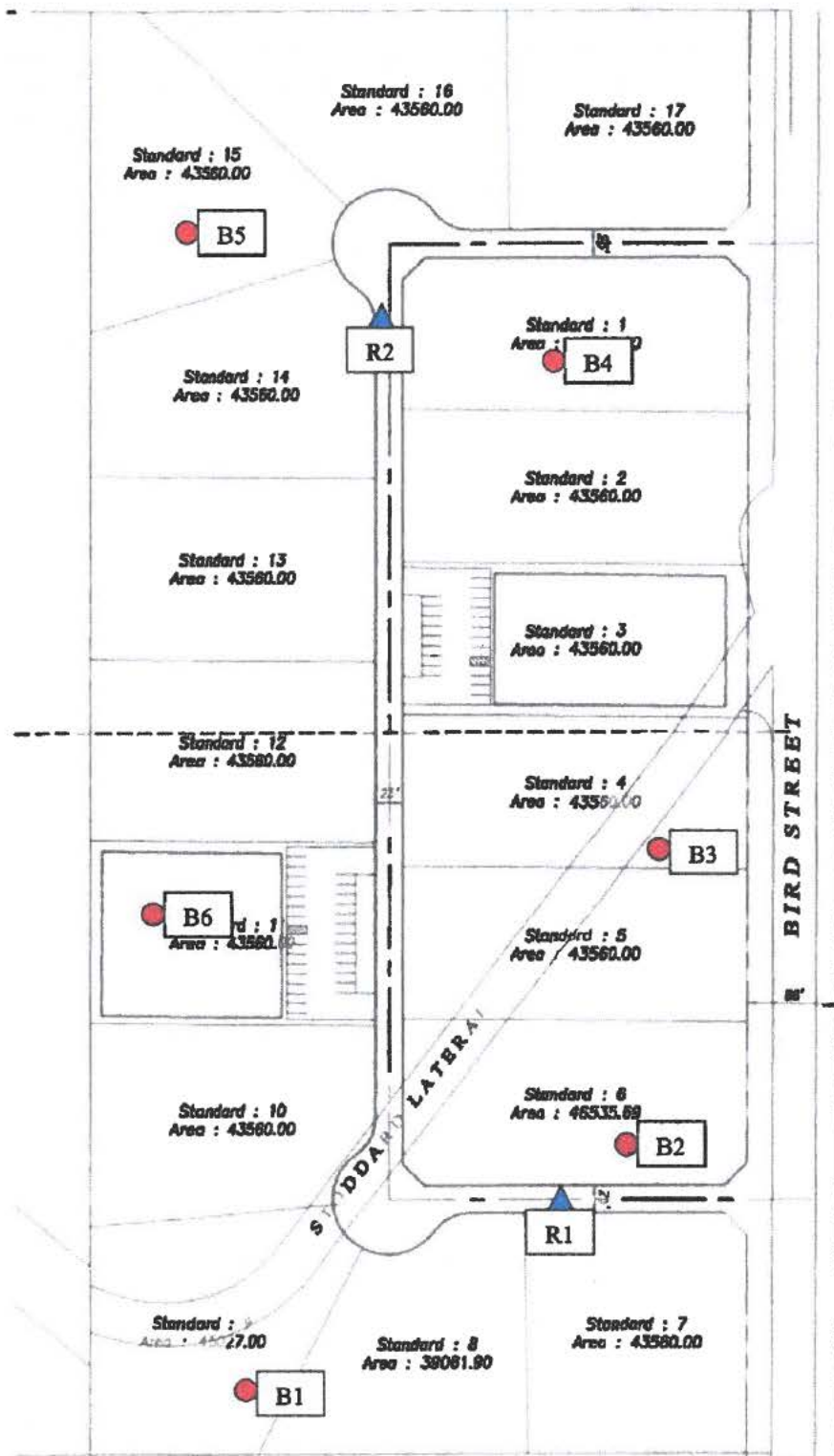
Respectfully submitted,
KRAZAN & ASSOCIATES, INC.



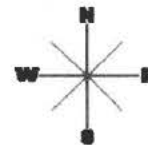

Steve Nelson
Project Engineer


David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

SN/DRJ:ht



- APPROXIMATE BORING LOCATION
- ▲ APPROXIMATE R-VALUE LOCATION



SITE MAP

**Light Industrial Development
Bird Street
Livingston, California**

Scale:
NTS

Drawn by:
HT

Project No.
072-19046

Date:
Sept. 2019

Approved by:
DJ

Figure No.
1

Krazan
GEOTECHNICAL ENGINEERING

APPENDIX A

FIELD AND LABORATORY INVESTIGATIONS

Field Investigation

The field investigation consisted of a surface reconnaissance and a subsurface exploratory program. Six 4½-inch to 6½-inch exploratory borings were advanced. The boring locations are shown on the site plan.

The soils encountered were logged in the field during the exploration and, with supplementary laboratory test data, are described in accordance with the Unified Soil Classification System.

Modified standard penetration tests and standard penetration tests were performed at selected depths. These tests represent the resistance to driving a 2½-inch and 1½-inch diameter split barrel sampler, respectively. The driving energy was provided by a hammer weighing 140 pounds falling 30 inches. Relatively undisturbed soil samples were obtained while performing this test. Bag samples of the disturbed soil were obtained from the auger cuttings. The modified standard penetration tests are identified in the sample type on the boring logs with a full shaded in block. The standard penetration tests are identified in the sample type on the boring logs with half of the block shaded. All samples were returned to our Clovis laboratory for evaluation.
















Laboratory Investigation

The laboratory investigation was programmed to determine the physical and mechanical properties of the foundation soil underlying the site. Test results were used as criteria for determining the engineering suitability of the surface and subsurface materials encountered.

In-situ moisture content, dry density, consolidation, direct shear, and sieve analysis tests were completed for the undisturbed samples representative of the subsurface material. Atterberg limits and R-value tests were completed for select bag samples obtained from the auger cuttings. These tests, supplemented by visual observation, comprised the basis for our evaluation of the site material.

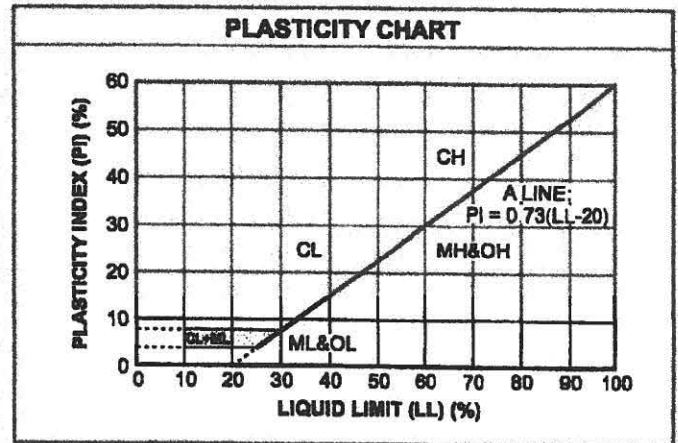
The logs of the exploratory borings and laboratory determinations are presented in this Appendix.

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART			
COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)		
		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)		
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)		
		SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)		
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

CONSISTENCY CLASSIFICATION	
Description	Blows per Foot
<i>Granular Soils</i>	
Very Loose	< 5
Loose	5 – 15
Medium Dense	16 – 40
Dense	41 – 65
Very Dense	> 65
<i>Cohesive Soils</i>	
Very Soft	< 3
Soft	3 – 5
Firm	6 – 10
Stiff	11 – 20
Very Stiff	21 – 40
Hard	> 40

GRAIN SIZE CLASSIFICATION		
Grain Type	Standard Sieve Size	Grain Size in Millimeters
Boulders	Above 12 inches	Above 305
Cobbles	12 to 13 inches	305 to 76.2
Gravel	3 inches to No. 4	76.2 to 4.76
Coarse-grained	3 to ¾ inches	76.2 to 19.1
Fine-grained	¾ inches to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.074
Coarse-grained	No. 4 to No. 10	4.76 to 2.00
Medium-grained	No. 10 to No. 40	2.00 to 0.042
Fine-grained	No. 40 to No. 200	0.042 to 0.074
Silt and Clay	Below No. 200	Below 0.074



Log of Boring B1

Project: Light Industrial Development

Project No: 072-19046

Client: QK

Figure No.: A-1

Location: Bird Street, Livingston, California

Logged By: R. Alexander

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft			Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20	40	60	10	20	30	40
0		Ground Surface											
2		SILTY SAND (SM) Very loose, fine- to medium-grained; light brown, damp, drills easily Medium dense below 1 foot	106.5	0.8		20							
4													
6			103.5	1.8		16							
8													
10		SAND (SP) Medium dense, fine- to coarse-grained; tan, damp, drills easily	96.3	3.5		17							
12													
14		CLAYEY SILTY SAND (SM/SC) Medium dense, fine- to medium-grained; brown, moist, drills easily	127.3	11.9		17							
16													
18		SILTY SAND (SM) Medium dense, fine- to medium-grained; brown, damp, drills easily											
20													

Drill Method: Solid Flight

Drill Date: 8-21-19

Drill Rig: CME 45B

Krazan and Associates

Hole Size: 4½ Inches

Driller: Brent Snyder

Elevation: 25 Feet

Sheet: 1 of 2

Log of Boring B1

Project: Light Industrial Development

Project No: 072-19046

Client: QK

Figure No.: A-1

Location: Bird Street, Livingston, California

Logged By: R. Alexander

Depth to Water: >

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.					
							20 40 60	10 20 30 40			
22			118.5	9.4		23					
24		SAND (SP) Medium dense, fine- to coarse-grained; tan, damp, drills easily									
26		End of Borehole									
28											
30											
32											
34											
36											
38											
40											

Drill Method: Solid Flight

Drill Date: 8-21-19

Drill Rig: CME 45B

Krazan and Associates

Hole Size: 4½ inches

Driller: Brent Snyder

Elevation: 25 Feet

Sheet: 2 of 2

Log of Boring B2

Project: Light Industrial Development

Project No: 072-19046

Client: QK

Figure No.: A-2

Location: Bird Street, Livingston, California

Logged By: R. Alexander

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft			Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20	40	60	10	20	30	40
0		Ground Surface											
2		SILTY SAND (SM) Very loose, fine- to medium-grained; light brown, damp, drills easily Loose below 1 foot											
			108.5	1.2		12							
4		Medium dense and brown below 4 feet											
6			106.6	19.9		24							
8		SAND (SP) Medium dense, fine- to coarse-grained; tan, damp, drills easily											
10		End of Borehole											
12													
14													
16													
18													
20													

Drill Method: Solid Flight

Drill Date: 8-21-19

Drill Rig: CME 45B

Krazan and Associates

Hole Size: 4½ Inches

Driller: Brent Snyder

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B3

Project: Light Industrial Development

Client: QK

Location: Bird Street, Livingston, California

Depth to Water:

Initial: None

Project No: 072-19046

Figure No.: A-3

Logged By: R. Alexander

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft			Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20	40	60	10	20	30	40
0		Ground Surface											
0		SILTY SAND (SM) Very loose, fine- to medium-grained; light brown, damp, drills easily Loose below 1 foot											
2			108.5	1.5		12							
4													
6			113.2	4.9		14							
8													
8		SAND (SP) Medium dense, fine- to coarse-grained; tan, damp, drills easily											
10			99.7	3.0		24							
12													
14													
14		SANDY SILT (ML) Medium dense, fine- to medium-grained; brown, moist, drills easily											
16			116.9	12.8		13							
18													
20													

Drill Method: Hollow Stem

Drill Rig: CME 45B

Driller: Brent Snyder

Krazan and Associates

Drill Date: 8-21-19

Hole Size: 6½ Inches

Elevation: 50 Feet

Sheet: 1 of 3

Log of Boring B3

Project: Light Industrial Development

Client: QK

Location: Bird Street, Livingston, California

Depth to Water>

Initial: None

Project No: 072-19046

Figure No.: A-3

Logged By: R. Alexander

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft					
22		SILTY SAND (SM) Medium dense, fine- to medium-grained; brown, moist, drills firmly	123.8	9.6		20					
24		SILTY SAND/SAND (SM/SP) Medium dense, fine- to medium-grained; tan, damp, drills firmly									
26			104.8	6.7		29					
30			98.3	7.5		19					
36			105.1	4.1		28					

Drill Method: Hollow Stem

Drill Rig: CME 45B

Driller: Brent Snyder

Krazan and Associates

Drill Date: 8-21-19

Hole Size: 6½ Inches

Elevation: 50 Feet

Sheet: 2 of 3

Log of Boring B3

Project: Light Industrial Development

Project No: 072-19046

Client: QK

Figure No.: A-3

Location: Bird Street, Livingston, California

Logged By: R. Alexander

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft					
							20 40 60	10 20 30 40			
			108.6	3.7		31					
42											
44											
46			104.1	5.1		29					
48											
50		End of Borehole									
52											
54											
56											
58											
60											

Drill Method: Hollow Stem

Drill Date: 8-21-19

Drill Rig: CME 45B

Krazan and Associates

Hole Size: 6½ Inches

Driller: Brent Snyder

Elevation: 50 Feet

Sheet: 3 of 3

Log of Boring B4

Project: Light Industrial Development

Project No: 072-19046

Client: QK

Figure No.: A-4

Location: Bird Street, Livingston, California

Logged By: R. Alexander

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft			Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft	20	40	60	10	20	30	40
0		Ground Surface											
2		SILTY SAND (SM) Very loose, fine- to medium-grained; light brown, damp, drills easily Loose below 1 foot	108.7	1.3		10							
4													
6			106.9	5.9		14							
8													
10		SILTY SAND (SM) Very dense, fine- to medium-grained, weakly cemented; brown, damp, drills hard	83.7	14.4		50+							
12													
14		SILTY SAND (SM) Medium dense, fine- to medium-grained; brown, damp, drills easily											
16		End of Borehole											
18													
20													

Drill Method: Solid Flight

Drill Date: 8-21-19

Drill Rig: CME 45B

Krazan and Associates

Hole Size: 4½ Inches

Driller: Brent Snyder

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B5

Project: Light Industrial Development

Client: QK

Location: Bird Street, Livingston, California

Depth to Water:

Initial: None

Project No: 072-19046

Figure No.: A-5

Logged By: R. Alexander

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft					
		Ground Surface									
0		SILTY SAND (SM) Very loose, fine- to medium-grained; light brown, damp, drills easily									
2		Loose below 1 foot Medium dense below 2 feet Brown below 2½ feet	114.3	2.6		28					
4											
6		Fine-grained and grayish-brown below 5½ feet	108.2	5.5		20					
8											
10		SILTY SAND (SM) Very dense, fine- to medium-grained, weakly cemented; brown, damp, drills firmly	118.0	8.8		50+					
12											
14		SILTY SAND (SM) Medium dense, fine- to medium-grained; brown, damp, drills easily									
16		SAND (SP) Medium dense, fine- to coarse-grained; tan, damp, drills easily	105.7	4.0		30					
18											
20											

Drill Method: Solid Flight

Drill Rig: CME 45B

Driller: Brent Snyder

Krazan and Associates

Drill Date: 8-21-19

Hole Size: 4½ Inches

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B6

Project: Light Industrial Development

Project No: 072-19046

Client: QK

Figure No.: A-6

Location: Bird Street, Livingston, California

Logged By: R. Alexander

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)			
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.					
		Ground Surface					20 40 60	10 20 30 40			
0		SILTY SAND (SM) Very loose, fine- to medium-grained; light brown, damp, drills easily									
2		Medium dense below 1 foot	106.1	2.2		28					
4											
6		Fine- to coarse-grained and brown below 5 feet	112.3	2.6		18					
8											
10		End of Borehole									
12											
14											
16											
18											
20											

Drill Method: Solid Flight

Drill Date: 8-21-19

Drill Rig: CME 45B

Krazan and Associates

Hole Size: 4½ Inches

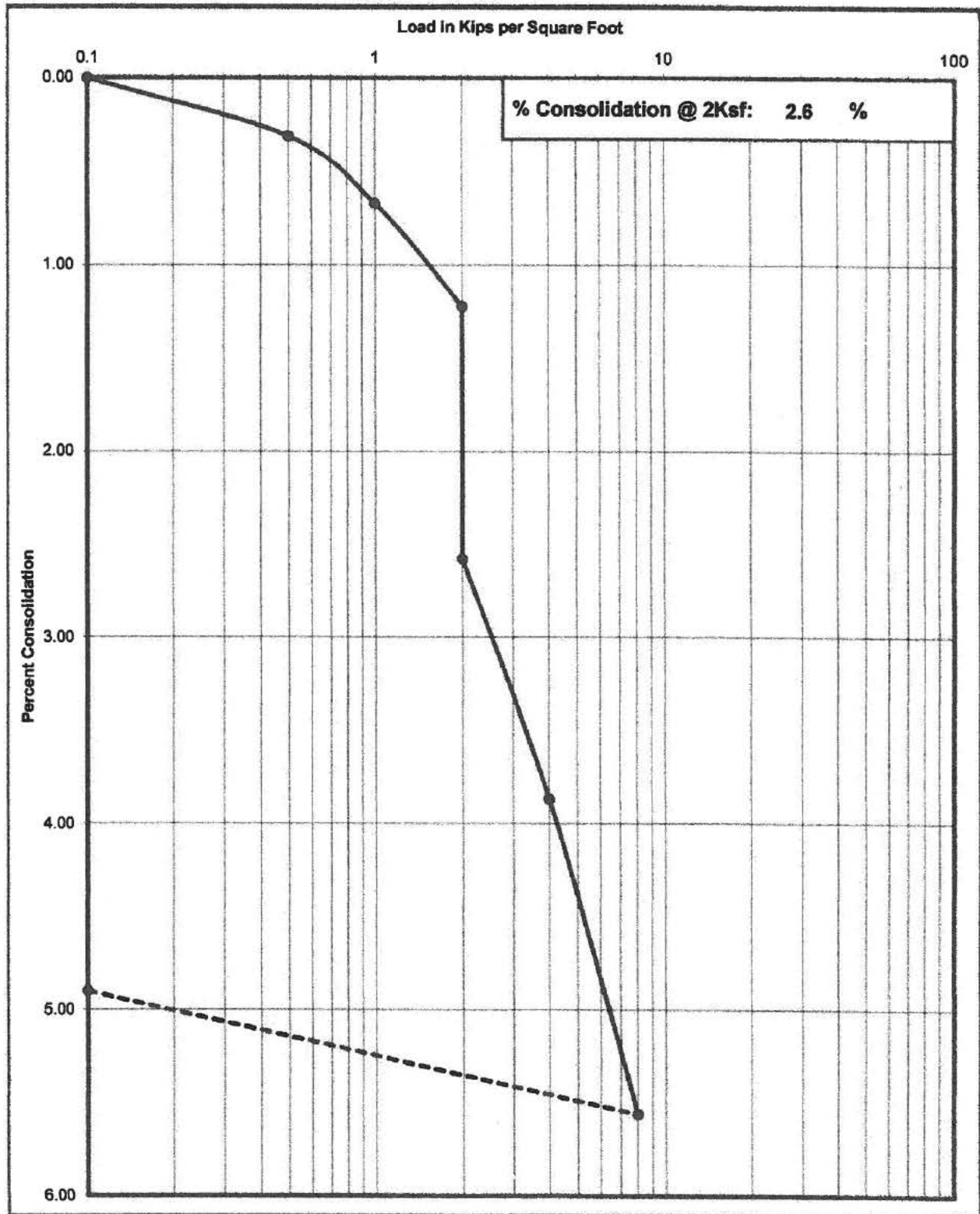
Driller: Brent Snyder

Elevation: 10 Feet

Sheet: 1 of 1

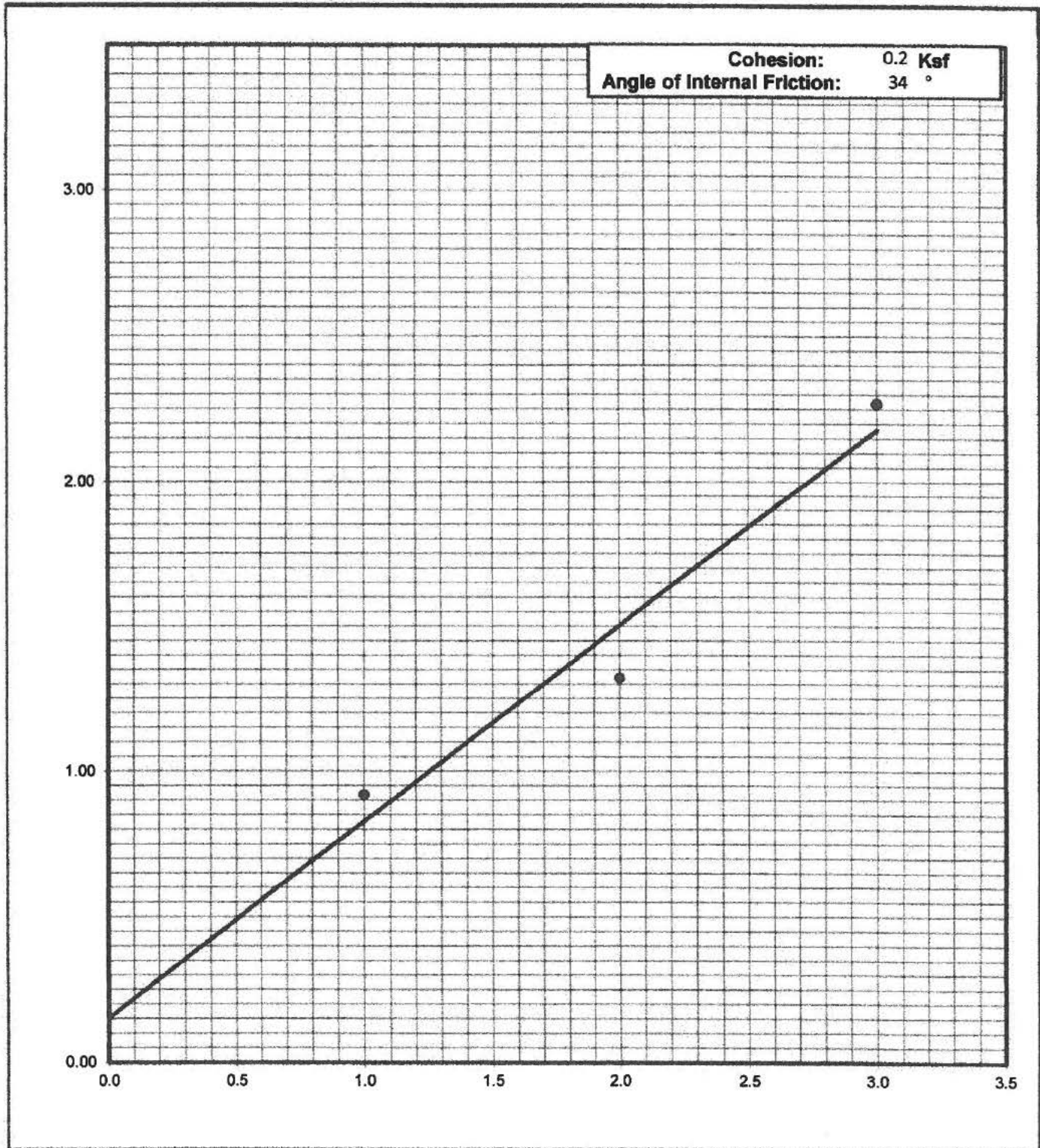
Consolidation Test

Project No	Boring No. & Depth	Date	Soil Classification
072-19046	B4 @ 2-3'	8/28/2019	SM

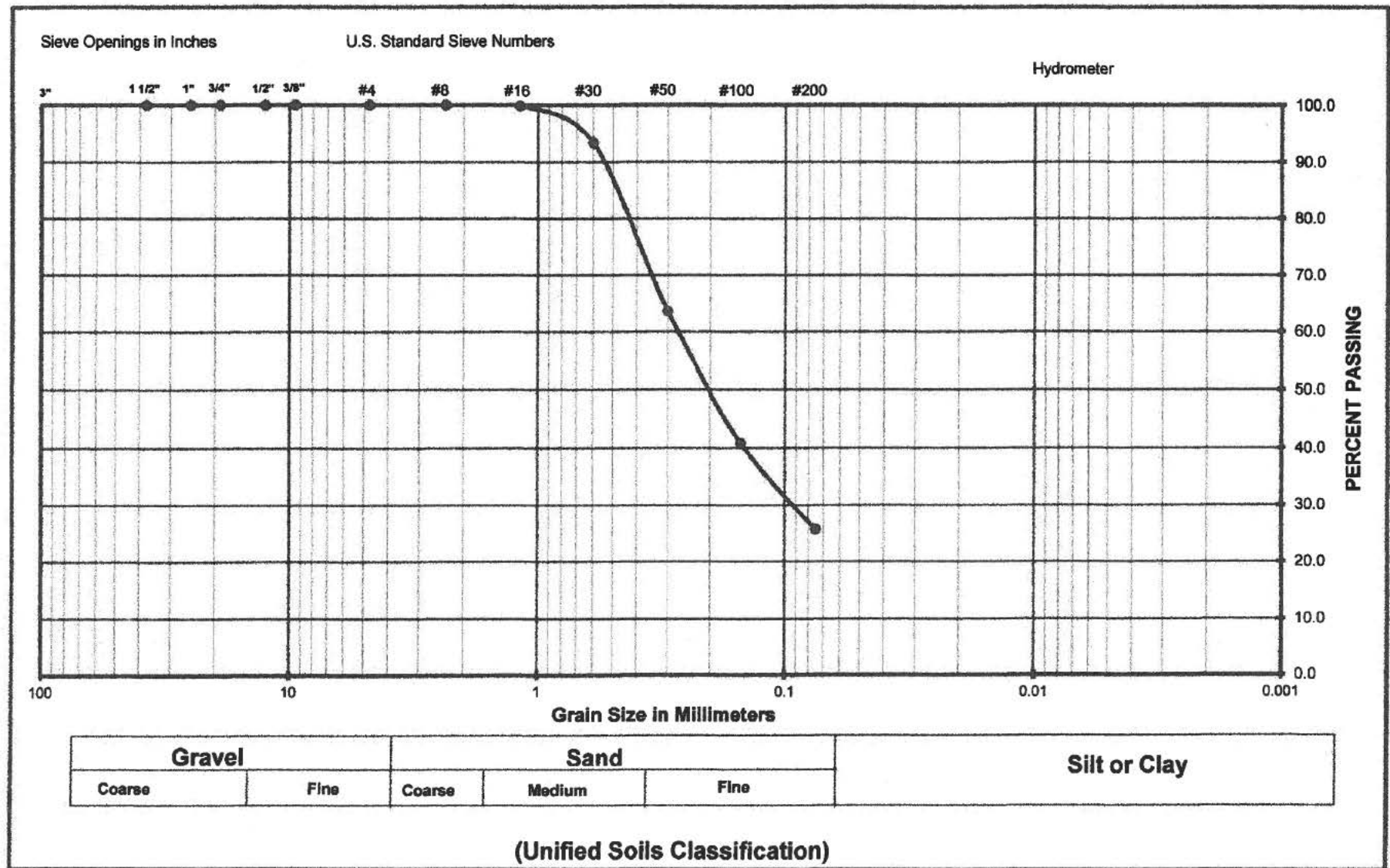


Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
072-19046	B3 @ 2-3'	SM	8/28/2019



Grain Size Analysis



Project Name Light Industrial Development
 Project Number 072-19046
 Soil Classification SM
 Sample Number B4 @ 2-3'

Krazan Testing Laboratory

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

Project: **Light Industrial Development**
 Project Number: **072-19046**
 Date Sampled: 8/21/2019
 Sampled By: RA
 Sample Number:
 Sample Location: B3 @ 15-16'
 Sample Description: ML

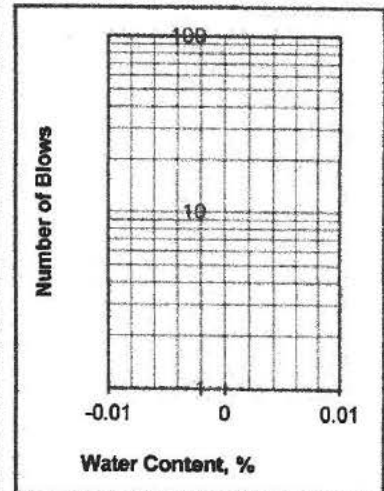
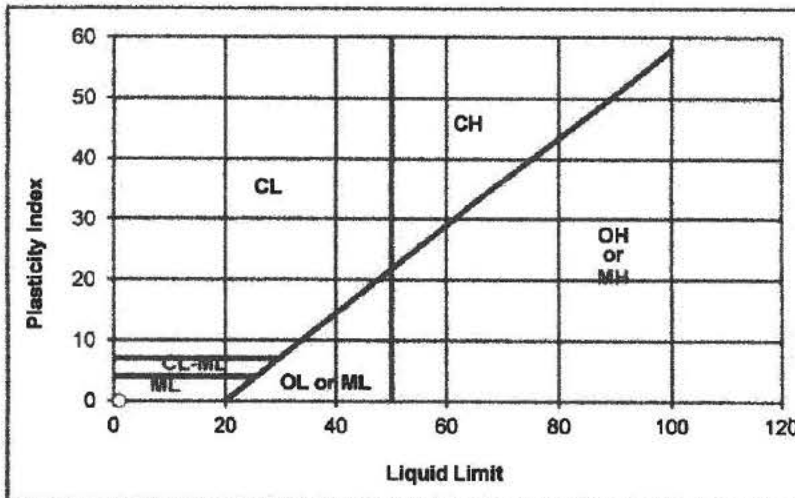
Date Tested: 8/27/2019
 Tested By: J Mitchell
 Verified By: J Gruszczynski

Trial Number	Plastic Limit			Liquid Limit		
	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)						
Weight of Dry Soil & Tare (g)						
Weight of Tare (g)						
Weight of water (g)						
Weight of Dry Soil (g)						
Water Content (% of dry wt.)						
Number of Blows						

Plastic Limit : N/D

Liquid Limit : N/D

Plasticity Index : **NON-PLASTIC**
 Unified Soil Classification : **NON-PLASTIC**
 Requirement:
 Approx. % of Material Retained on # 40 Sieve:



Departures from Outlined Procedure:

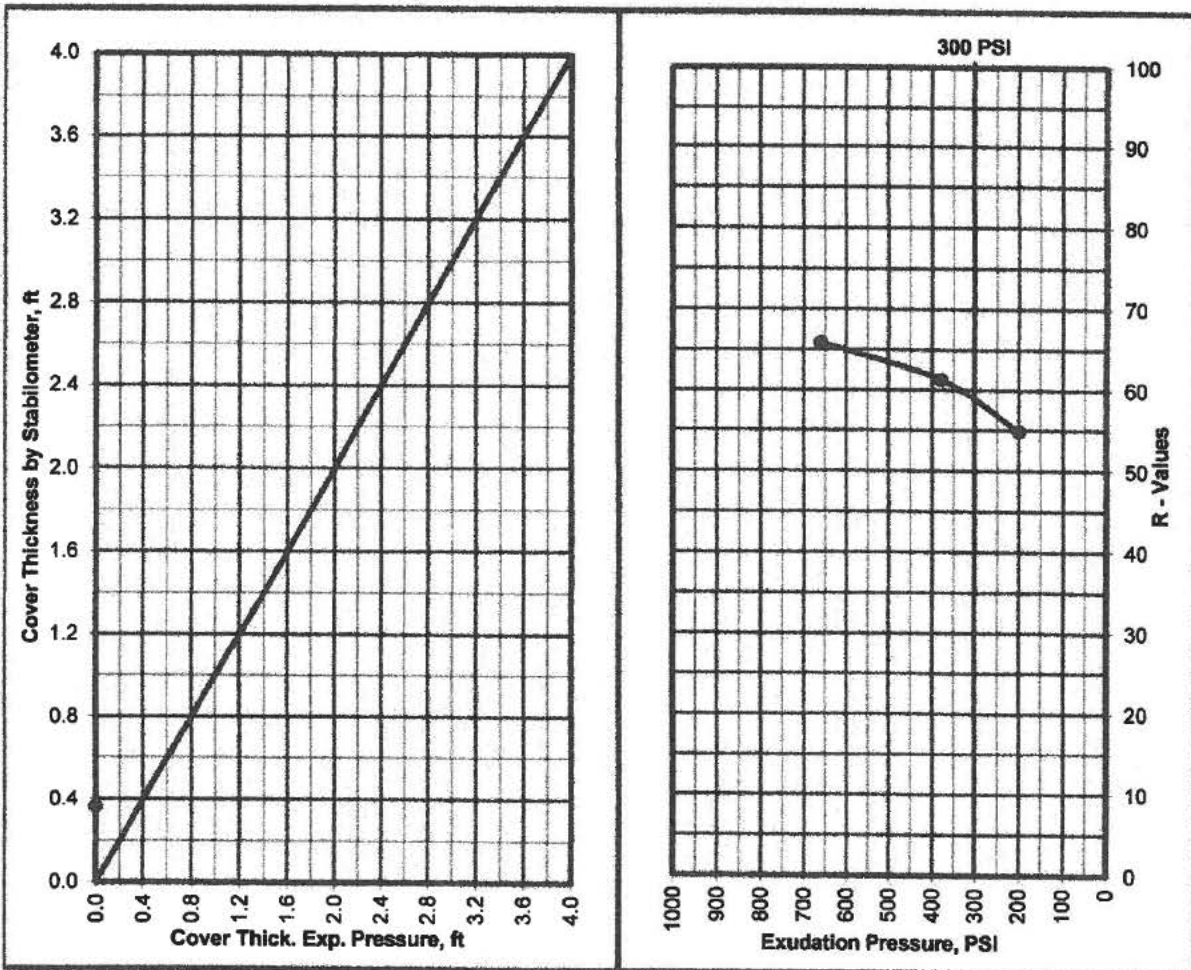
Unusual Conditions, Other Notes:

R - VALUE TEST ASTM D - 2844 / CAL 301

Project Number : 072-19046
 Project Name : Light Industrial Development
 Date : 8/26/2019
 Sample Location/Curve Number : RV#1
 Soil Classification : SM

TEST	A	B	C
Percent Moisture @ Compaction, %	9.7	10.7	10.2
Dry Density, lbm/cu.ft.	119.6	120.0	120.0
Exudation Pressure, psi	660	200	380
Expansion Pressure, (Dial Reading)	0	0	0
Expansion Pressure, psf	0	0	0
Resistance Value R	66	55	61

R Value at 300 PSI Exudation Pressure	59
R Value by Expansion Pressure (TI =): 5	Expansion Pressure nil

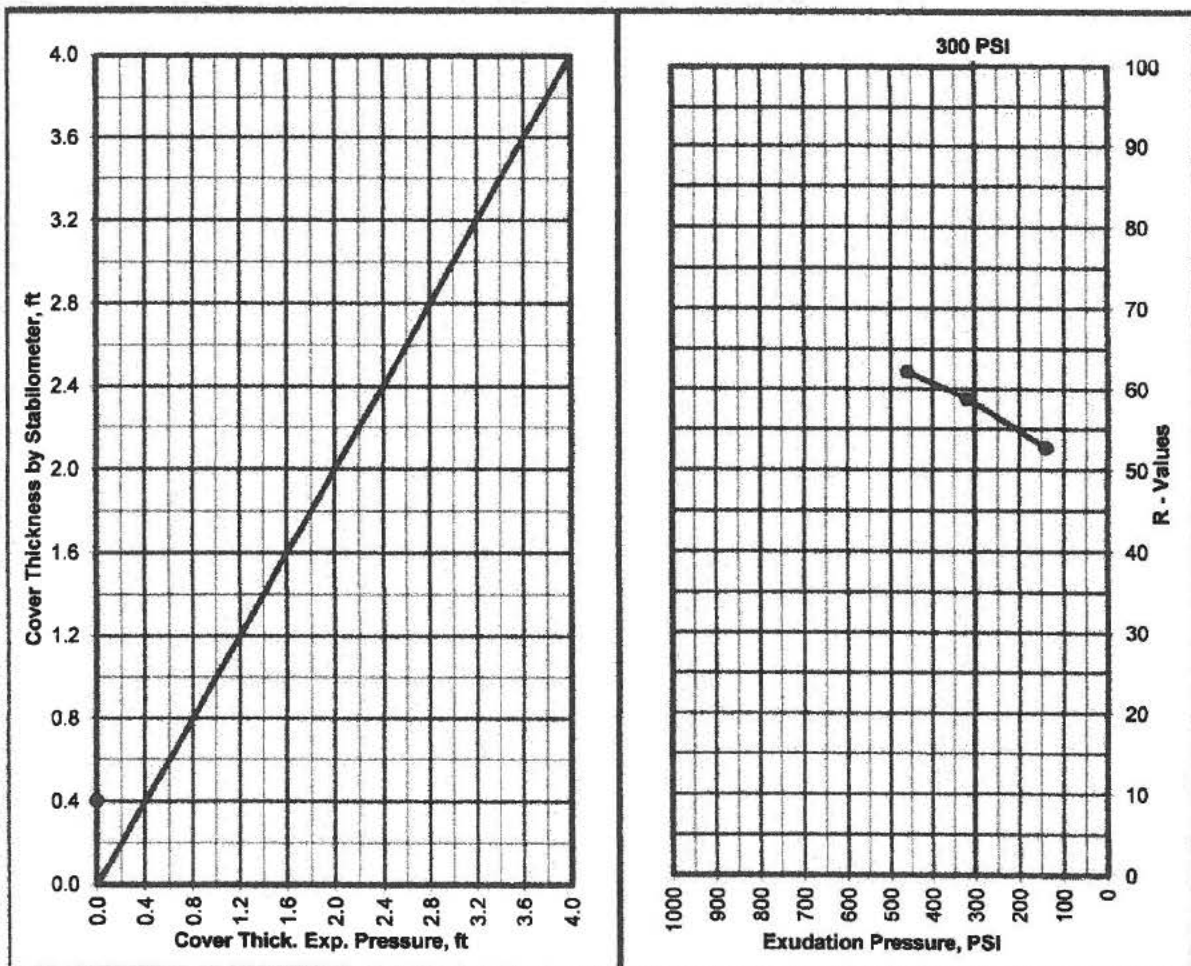


R - VALUE TEST ASTM D - 2844 / CAL 301

Project Number : 072-19046
 Project Name : Light Industrial Development
 Date : 8/26/2019
 Sample Location/Curve Number : RV#2
 Soil Classification : SM

TEST	A	B	C
Percent Moisture @ Compaction, %	9.6	10.6	10.1
Dry Density, lbm/cu.ft.	119.3	119.3	119.4
Exudation Pressure, psi	460	140	320
Expansion Pressure, (Dial Reading)	0	0	0
Expansion Pressure, psf	0	0	0
Resistance Value R	62	53	59

R Value at 300 PSI Exudation Pressure	58
R Value by Expansion Pressure (TI =): 5	Expansion Pressure nil



APPENDIX B

EARTHWORK SPECIFICATIONS

GENERAL

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including but not limited to the furnishing of all labor, tools, and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans, and disposal of excess materials.

PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of Krazan and Associates, Inc., hereinafter known as the Soils Engineer and/or Testing Agency. Attainment of design grades when achieved shall be certified by the project Civil Engineer. Both the Soils Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory as determined by both the Soils Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Soils Engineer, Civil Engineer or project Architect.

No earthwork shall be performed without the physical presence or approval of the Soils Engineer. The Contractor shall notify the Soils Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the Owner or the Engineers.

TECHNICAL REQUIREMENTS: All compacted materials shall be densified to a density not less than 90 percent relative compaction based on ASTM Test Method D1557 or CAL-216, as specified in the technical portion of the Soil Engineer's report. The location and frequency of field density tests shall be as determined by the Soils Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Soils Engineer.

SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the soil report.

The Contractor shall make his own interpretation of the data contained in said report, and the Contractor shall not be relieved of liability under the Contract documents for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or windblown materials attributable to his work.

SITE PREPARATION

Site preparation shall consist of site clearing and grubbing and the preparations of foundation materials for receiving fill.

CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter, and all other matter determined by the Soils Engineer to be deleterious or otherwise unsuitable. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed building areas should be removed to a minimum depth of 3 feet and to such an extent which would permit removal of all roots larger than 1 inch. Tree roots removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill of tree root excavations should not be permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proper control of backfill placement and compaction. Burning in areas which are to receive fill materials shall not be permitted.

SUBGRADE PREPARATION: Surfaces to receive Engineered Fill, building or slab loads shall be prepared as outlined above, excavated/scarified to a depth of 12 inches, moisture-conditioned as necessary, and compacted to 90 percent relative compaction.

Loose soil areas, areas of uncertified fill, and/or areas of disturbed soils shall be moisture-conditioned as necessary and recompact to 90 percent relative compaction. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas which are to receive fill materials shall be approved by the Soils Engineer prior to the placement of any of the fill material.

EXCAVATION: All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over-excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable technical requirements.

FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence of the Soils Engineer. Material from the required site excavation may be utilized for construction site fills provided prior approval is given by the Soils Engineer. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Soils Engineer.

PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. However, compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Soils Engineer.

Both cut and fill areas shall be surface-compacted to the satisfaction of the Soils Engineer prior to final acceptance.

SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Soils Engineer indicates that the moisture content and density of previously placed fill are as specified.

APPENDIX C

PAVEMENT SPECIFICATIONS

1. DEFINITIONS - The term "pavement" shall include asphaltic concrete surfacing, untreated aggregate base, and aggregate subbase. The term "subgrade" is that portion of the area on which surfacing, base, or subbase is to be placed.

The term "Standard Specifications": hereinafter referred to is the 2018 Standard Specifications of the State of California, Department of Transportation, and the "Materials Manual" is the Materials Manual of Testing and Control Procedures, State of California, Department of Public Works, Division of Highways. The term "relative compaction" refers to the field density expressed as a percentage of the maximum laboratory density as defined in the applicable tests outlined in the Materials Manual.

2. SCOPE OF WORK - This portion of the work shall include all labor, materials, tools, and equipment necessary for, and reasonably incidental to the completion of the pavement shown on the plans and as herein specified, except work specifically noted as "Work Not Included."

3. PREPARATION OF THE SUBGRADE - The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum relative compaction of 90 percent. The finished subgrades shall be tested and approved by the Soils Engineer prior to the placement of additional pavement courses.

4. UNTREATED AGGREGATE BASE - The aggregate base material shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base material shall conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, 1½ inches maximum size. The aggregate base material shall be spread and compacted in accordance with Section 26 of the Standard Specifications. The aggregate base material shall be spread in layers not exceeding 6 inches and each layer of aggregate material course shall be tested and approved by the Soils Engineer prior to the placement of successive layers. The aggregate base material shall be compacted to a minimum relative compaction of 95 percent.

5. AGGREGATE SUBBASE - The aggregate subbase shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate subbase material shall conform to the requirements of Section 25 of the Standard Specifications for Class 2 material. The aggregate subbase material shall be compacted to a minimum relative compaction of 95 percent, and it shall be spread and compacted in accordance with Section 25 of the Standard Specifications. Each layer of aggregate subbase shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

6. ASPHALTIC CONCRETE SURFACING - Asphaltic concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at a central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades and dimensions shown on the plans. The viscosity grade of the asphalt shall be PG 64-10. The mineral aggregate shall be Type B, ½ inch maximum size, medium grading and shall conform to the requirements set forth in Section 39. The drying, proportioning and mixing of the materials shall conform to Section 39.

The prime coat, spreading and compacting equipment and spreading and compacting mixture shall conform to the applicable chapters of Section 39, with the exception that no surface course shall be placed when the atmospheric temperature is below 50° F. The surfacing shall be rolled with a combination of steel wheel and pneumatic rollers, as described in Section 39-6. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

7. FOG SEAL COAT - The fog seal (mixing type asphaltic emulsion) shall conform to and be applied in accordance with the requirements of Section 37.

APPENDIX E
TRAFFIC IMPACT STUDY

Intersections

✓ Main Street at Campbell Boulevard

- Near-Term Plus Project scenario:
 - Install Traffic Signal

(The previous version required a traffic signal for the Existing Plus Project and Near-Term Plus Project scenarios)

- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the westbound approach to 1 left turn lane, 1 through lane, and 1 right turn lane (adding 1 right turn lane)

(SAME)

✓ Winton Parkway at SR 99 NB Ramps

Recommended improvements to achieve acceptable levels of service:

- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the southbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)

(The previous version required 2 right turn lanes for the southbound approach for the Cumulative Year 2042 Plus Project scenario)

✓ Winton Parkway at SR 99 SB Ramps

Recommended improvements to achieve acceptable levels of service:

- Existing Plus Project and Near-Term Plus Project scenarios:
 - Install Traffic Signal
 - Widen the northbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)
 - Widen the eastbound approach to 1 left turn lane and 1 right turn lane (adding 1 left turn lane)

(SAME)

- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal

- Widen the northbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)
- Widen the eastbound approach to 1 left turn lane and 2 right turn lane (adding 1 left turn lane and 1 right turn lane)

(SAME)

✓ Hammatt Avenue at SR 99 NB Ramps

Recommended improvements to achieve acceptable levels of service:

- Existing Plus Project scenario:
 - Install Traffic Signal

(SAME)

- Near-Term Plus Project scenario:
 - Install Traffic Signal
 - Widen the westbound approach to 1 left-through lane and 2 right turn lanes (adding 1 right turn lane)

(SAME)

- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the southbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)
 - Widen the westbound approach to 1 left-through lane and 2 right turn lanes (adding 1 right turn lane)

(SAME)

✓ Hammatt Avenue at SR 99 SB Ramps

Recommended improvements to achieve acceptable levels of service:

- Near-Term Plus Project scenario:
 - Install Traffic Signal

(SAME)

- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal

- Widen the northbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)

(SAME)

Roadway Segments

The previous version required the widening of Main Street between Bird Street and Olive Avenue for the Existing Plus Project, Near-Term Plus Project, and Cumulative Year 2042 Plus Project scenarios. These improvements are not required considering the most recent version of the traffic analysis.

Equitable Share

Table 4-3
Equitable Share Responsibility

INTERSECTION	PEAK HOUR	EXISTING	PROJECT TRIPS	CUMULATIVE YEAR 2042 PLUS PROJECT	FAIR SHARE PERCENTAGE	REDUCTION IN FAIR SHARE PERCENTAGE FROM PREVIOUS STUDY
Main Street / Campbell Boulevard	AM	1,189	22	1,701	4.3%	-14.3%
	PM	946	28	1,396	6.2%	-14.8%
Winton Parkway / SR 99 NB Ramps	AM	1,284	4	1,727	0.9%	-3.9%
	PM	1,243	6	1,675	1.4%	-3.7%
Winton Parkway / SR 99 SB Ramps	AM	1,711	3	2,301	0.5%	-2.5%
	PM	1,727	2	2,323	0.3%	-0.5%
Hammatt Avenue / SR 99 NB Ramps	AM	1,322	6	2,208	0.7%	-2.6%
	PM	1,262	7	2,131	0.8%	-2.6%
Hammatt Avenue / SR 99 SB Ramps	AM	1,160	1	1,873	0.1%	-0.7%
	PM	1,236	5	2,010	0.6%	-2.4%

Greenzone Industrial Development

Traffic Impact Study
April 2021

Prepared by:
VRPA Technologies, Inc.
4630 W. Jennifer, Suite 105
Fresno, CA 93722
Project Manager: Jason Ellard



Greenzone Industrial Development Traffic Impact Study

Study Team

- ✓ Georgiena Vivian, President, VRPA Technologies, Inc., gvivian@vrpatechnologies.com, (559) 259-9257
 - ✓ Erik Ruehr, Dir. of Traffic Engineering, VRPA Technologies, Inc., eruehr@vrpatechnologies.com, (858) 566-1766
 - ✓ Jason Ellard, Transportation Engineer, VRPA Technologies, Inc., jellard@vrpatechnologies.com, (559) 271-1200
-

Table of Contents

Section	Description	Page
	Executive Summary	E-1
1.0	Introduction	1
1.1	Description of the Region/Project	1
1.1.1	Project Access	1
1.1.2	Study Area	1
1.1.3	Study Scenarios	1
1.2	Methodology	5
1.2.1	Intersection Analysis	5
1.2.2	Roadway Segment Analysis	5
1.3	Policies to Maintain Level of Service	6
2.0	Existing Conditions	11
2.1	Existing Traffic Counts and Roadway Geometrics	11
2.2	Existing Functional Roadway Classification System	11
2.3	Affected Streets and Highways	11
2.4	Level of Service	12
2.4.1	Intersection Capacity Analysis	12
2.4.2	Queuing Analysis	16
2.4.3	Roadway Segment Capacity Analysis	16
3.0	Traffic Impacts	18
3.1	Trip Generation	18
3.2	Trip Distribution	18
3.3	Project Traffic	18
3.4	Existing Plus Project Traffic Conditions	22
3.5	Approved/Pending Project Traffic	22
3.6	Near-Term Traffic Conditions	22
3.7	Cumulative Year 2041 Without Project Traffic Conditions	27
3.8	Cumulative Year 2041 Plus Project Traffic Conditions	27
3.9	Impacts	27
3.9.1	Intersection Capacity Analysis	27
3.9.2	Queuing Analysis	27
3.9.3	Roadway Segment Capacity Analysis	27

4.0	Mitigation	34
4.1	Recommended Improvements	34
4.2	Equitable Share Responsibility	39

Appendices

Appendix A – HCM-Based LOS Table (Florida Tables)
Appendix B – Traffic Count Data Worksheets
Appendix C – SYNCHRO 10 (HCM 6 th Edition) Worksheets
Appendix D – Signal Warrant Worksheets

List of Tables

1-1	Signalized Intersections Level of Service Definitions	7
1-2	Unsignalized Intersections Level of Service Definitions	8
1-3	Roadway Segment Level of Service Definitions	9
1-4	Peak Hour One-Way Volumes	10
2-1	Existing Intersection Operations	16
2-2	Existing Queuing Operations	17
2-3	Existing Segment Operations	17
3-1	Project Trip Generation	18
3-2	Intersection Operations	32
3-3	Queuing Operations	32
3-4	Segment Operations	33
4-1	Intersection Operations with Mitigation	36
4-2	Left Turn and Right Turn Storage Requirements	37
4-3	Equitable Share Responsibility	39

List of Figures

1-1	Regional Location	2
1-2	Project Location	3
1-3	Project Site Map	4
2-1	Existing Lane Geometry	13
2-2	Existing AM Peak Hour Traffic	14
2-3	Existing PM Peak Hour Traffic	15
3-1	Project Trip Distribution	19
3-2	Project AM Peak Hour Traffic	20
3-3	Project PM Peak Hour Traffic	21
3-4	Existing Plus Project AM Peak Hour Traffic	23
3-5	Existing Plus Project PM Peak Hour Traffic	24
3-6	Near-Term Plus Project AM Peak Hour Traffic	25
3-7	Near-Term Plus Project PM Peak Hour Traffic	26
3-8	Cumulative Year 2042 Without Project AM Peak Hour Traffic	28

3-9	Cumulative Year 2042 Without Project PM Peak Hour Traffic	29
3-10	Cumulative Year 2042 Plus Project AM Peak Hour Traffic	30
3-11	Cumulative Year 2042 Plus Project PM Peak Hour Traffic	31
4-1	Cumulative Year 2042 Lane Geometry	38

Executive Summary

This Traffic Impact Study (TIS) has been prepared for the purpose of analyzing traffic conditions related to the proposed development of an industrial-commercial project with approximately 22 lots. The Project site is located in the northern portion of the City of Livingston along Bird Street. Figures 1-1 and 1-2 graphically display the location of the Project and the surrounding roadway network. Figure 1-3 provides the site map for the Project.

PROJECT ACCESS

The access/egress from the site will be located along Bird Street, approximately one-half mile west of the Bird Street and Livingston Cressey Road intersection. The site map includes two (2) driveways or access/egress points from Bird Street.

STUDY AREA

The following intersections and roadway segments included in this TIS were determined in consultation with City of Livingston staff and include:

Intersections

- ✓ Bird Street at Livingston Cressey Road
- ✓ Campbell Boulevard at Main Street
- ✓ Winton Parkway at SR 99 NB Ramps
- ✓ Winton Parkway at SR 99 SB Ramps
- ✓ Hammatt Avenue at SR 99 NB Ramps
- ✓ Hammatt Avenue at SR 99 SB Ramps

Roadway Segments

- ✓ Bird Street between:
 - Livingston Cressey Road and Project Driveway
- ✓ Main Street between:
 - Bird Street and Campbell Boulevard

IMPACTS

Intersections

Table E-1 shows intersections that are expected to fall short of desirable operating conditions for various scenarios. Potential mitigation measures are discussed in Chapter 4 of this report. Results of the analysis show that the Project will cause or contribute to an unacceptable LOS at all of the study intersections with the exception of Livingston Cressey Road at Bird Street when comparing the Cumulative Year 2042 Without Project and Cumulative Year 2042 Plus Project

scenarios.

Segments

Results of the segment analysis along the existing street and highway system are reflected in Table E-2. Results of the analysis show that all of the roadway segments will operate at acceptable levels of service through the Cumulative Year 2042 Plus Project scenario.

Table E-1
Intersection Operations

INTERSECTION	CONTROL	TARGET LOS	PEAK HOUR	EXISTING		EXISTING PLUS PROJECT		NEAR-TERM PLUS PROJECT		CUMULATIVE YEAR 2042 WITHOUT PROJECT		CUMULATIVE YEAR 2042 PLUS PROJECT	
				DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS
1. Livingston Cressey Road / Bird Street	One-Way Stop	C	AM	9.7	A	10.3	B	10.4	B	10.2	B	14.8	B
			PM	10.0	B	10.9	B	11.0	B	10.6	B	11.6	B
2. Main Street / Campbell Boulevard	All-Way Stop	C	AM	38.3	E+	41.0	E+	68.1	F++	149.4	F++	159.3	F++
			PM	13.8	B	14.2	B	17.6	C	35.5	E++	36.8	E++
3. Winton Parkway / SR 99 NB Ramps	All-Way Stop	C	AM	16.1	C	19.2	C	21.4	C	57.5	F++	58.4	F++
			PM	22.3	C	22.4	C	26.1	D+	74.9	F++	75.3	F++
4. Winton Parkway / SR 99 SB Ramps	All-Way Stop	C	AM	169.8	F++	170.6	F++	197.2	F++	371.5	F++	---	F++
			PM	191.2	F++	191.9	F++	219.5	F++	---	F++	---	F++
5. Hammatt Avenue / SR 99 NB Ramps	All-Way Stop	C	AM	37.0	E++	37.7	E++	136.0	F++	226.3	F++	227.6	F++
			PM	26.5	D++	27.2	D++	104.8	F++	193.6	F++	196.1	F++
6. Hammatt Avenue / SR 99 SB Ramps	All-Way Stop	C	AM	23.6	C	23.6	C	68.1	F++	140.5	F++	140.5	F++
			PM	20.0	C	20.0	C	43.8	E++	91.0	F++	91.2	F++

DELAY is measured in seconds

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

For All-Way Stop intersections, delay results show the average for the entire intersection. For one-way stop controlled intersections, delay results show the delay for the worst movement.

+ Does not meet peak hour signal warrants.

++ Meets peak hour signal warrants.

* Delay Exceeds 300 seconds.

Table E-2
Segment Operations

STREET SEGMENT	SEGMENT DESCRIPTION	DIRECTION	TARGET LOS	PEAK HOUR	EXISTING		EXISTING PLUS PROJECT		NEAR-TERM PLUS PROJECT		CUMULATIVE YEAR 2042 WITHOUT PROJECT		CUMULATIVE YEAR 2042 PLUS PROJECT	
					VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS
Bird Street														
Livingston Cressey Road to Project Driveway	2 Lanes Undivided	EB	C	AM	2	C	9	C	9	C	3	C	10	C
				PM	8	C	35	C	35	C	11	C	38	C
		WB		AM	6	C	29	C	29	C	8	C	31	C
				PM	8	C	19	C	19	C	11	C	22	C
Main Street														
Bird Street to Olive Avenue	2 Lanes Undivided	NB	C	AM	68	C	90	C	92	C	91	C	113	C
		SB		PM	67	C	77	C	80	C	89	C	100	C
				AM	79	C	86	C	89	C	105	C	112	C
				PM	98	C	124	C	127	C	131	C	156	C
Olive Avenue to Campbell Boulevard	4 Lanes Undivided	NB	C	AM	407	C	424	C	474	C	577	C	594	C
		SB		PM	307	C	315	C	366	C	448	C	457	C
				AM	450	C	455	C	505	C	633	C	638	C
				PM	338	C	358	C	411	C	491	C	511	C

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

MITIGATION

This section describes potential improvements to mitigate the traffic impacts of the Project. Described below are potential improvements at study area intersections for various scenarios. In order to mitigate the Project's impacts, the Project may be required to build improvements that are identified under the 'Existing Plus Project' condition to improve identified LOS deficiencies. The Project will be required to contribute a fair share towards the costs of improvements that are identified for the Cumulative Year 2042 scenarios.

Recommended Improvements

Intersections

✓ Main Street at Campbell Boulevard

Recommended improvements to achieve acceptable levels of service:

- Near-Term Plus Project scenario:
 - Install Traffic Signal
- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the westbound approach to 1 left turn lane, 1 through lane, and 1 right turn lane (adding 1 right turn lane)

The improvements identified above for the Near-Term Plus Project, and Cumulative Year 2042 Plus Project scenarios are sufficient to meet the City of Livingston's acceptable LOS standard of 'C'. Improvements were not recommended for the Existing Plus Project scenario since the minor street approach does not generate enough traffic to justify installation of a traffic signal.

✓ Winton Parkway at SR 99 NB Ramps

Recommended improvements to achieve acceptable levels of service:

- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the southbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)

The improvements identified above for the Cumulative Year 2042 Plus Project scenario are sufficient to meet the City of Livingston's acceptable LOS standard of 'C'.

✓ Winton Parkway at SR 99 SB Ramps

Recommended improvements to achieve acceptable levels of service:

- Existing Plus Project and Near-Term Plus Project scenarios:
 - Install Traffic Signal

- Widen the northbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)
- Widen the eastbound approach to 1 left turn lane and 1 right turn lane (adding 1 left turn lane)
- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the northbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)
 - Widen the eastbound approach to 1 left turn lane and 2 right turn lane (adding 1 left turn lane and 1 right turn lane)

The improvements identified above for the Existing Plus Project, Near-Term Plus Project, and Cumulative Year 2042 Plus Project scenarios are sufficient to meet the City of Livingston's acceptable LOS standard of 'C'.

✓ Hammatt Avenue at SR 99 NB Ramps

Recommended improvements to achieve acceptable levels of service:

- Existing Plus Project scenario:
 - Install Traffic Signal
- Near-Term Plus Project scenario:
 - Install Traffic Signal
 - Widen the westbound approach to 1 left-through lane and 2 right turn lanes (adding 1 right turn lane)
- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the southbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)
 - Widen the westbound approach to 1 left-through lane and 2 right turn lanes (adding 1 right turn lane)

The improvements identified above for the Existing Plus Project, Near-Term Plus Project, and Cumulative Year 2042 Plus Project scenarios are sufficient to meet the City of Livingston's acceptable LOS standard of 'C'.

✓ Hammatt Avenue at SR 99 SB Ramps

Recommended improvements to achieve acceptable levels of service:

- Near-Term Plus Project scenario:
 - Install Traffic Signal
- Cumulative Year 2042 Plus Project scenario:

- Install Traffic Signal
- Widen the northbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)

The improvements identified above for the Near-Term Plus Project and Cumulative Year 2042 Plus Project scenarios are sufficient to meet the City of Livingston's acceptable LOS standard of 'C'.

Post-Mitigation Level of Service

The level of service resulting from the potential improvements identified above is shown in Table E-3 for study area intersections.

Table E-3
Intersection Operations with Mitigation

INTERSECTION	CONTROL	TARGET LOS	PEAK HOUR	EXISTING PLUS PROJECT		NEAR-TERM PLUS PROJECT		CUMULATIVE YEAR 2042 PLUS PROJECT	
				DELAY	LOS	DELAY	LOS	DELAY	LOS
2. Main Street / Campbell Boulevard	Signalized	C	AM			22.1	C	23.4	C
			PM			17.7	B	19.3	B
3. Winton Parkway / SR 99 NB Ramps	Signalized	C	AM					14.4	B
			PM					32.5	C
4. Winton Parkway / SR 99 SB Ramps	Signalized	C	AM	14.8	B	15.3	B	15.1	B
			PM	23.0	C	26.4	C	23.5	C
5. Hammatt Avenue / SR 99 NB Ramps	Signalized	C	AM	15.8	B	28.3	C	19.5	B
			PM	11.8	B	15.6	B	14.3	B
6. Hammatt Avenue / SR 99 SB Ramps	Signalized	C	AM			22.0	C	19.8	B
			PM			23.4	C	25.3	C

DELAY is measured in seconds

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

1.0 Introduction

1.1 Description of the Region/Project

This Traffic Impact Study (TIS) has been prepared for the purpose of analyzing traffic conditions related to the proposed development of an industrial-commercial project with approximately 22 lots. The Project site is located in the northern portion of the City of Livingston along Bird Street. Figures 1-1 and 1-2 graphically display the location of the Project and the surrounding roadway network. Figure 1-3 provides the site map for the Project.

1.1.1 Project Access

The access/egress from the site will be located along Bird Street, approximately one-half mile west of the Bird Street and Livingston Cressey Road intersection. The site map includes two (2) driveways or access/egress points from Bird Street.

1.1.2 Study Area

The following intersections and roadway segments included in this TIS were determined in consultation with City of Livingston staff and include:

Intersections

- ✓ Bird Street at Livingston Cressey Road
- ✓ Campbell Boulevard at Main Street
- ✓ Winton Parkway at SR 99 NB Ramps
- ✓ Winton Parkway at SR 99 SB Ramps
- ✓ Hammatt Avenue at SR 99 NB Ramps
- ✓ Hammatt Avenue at SR 99 SB Ramps

Roadway Segments

- ✓ Bird Street between:
 - Livingston Cressey Road and Project Driveway
- ✓ Main Street between:
 - Bird Street and Campbell Boulevard

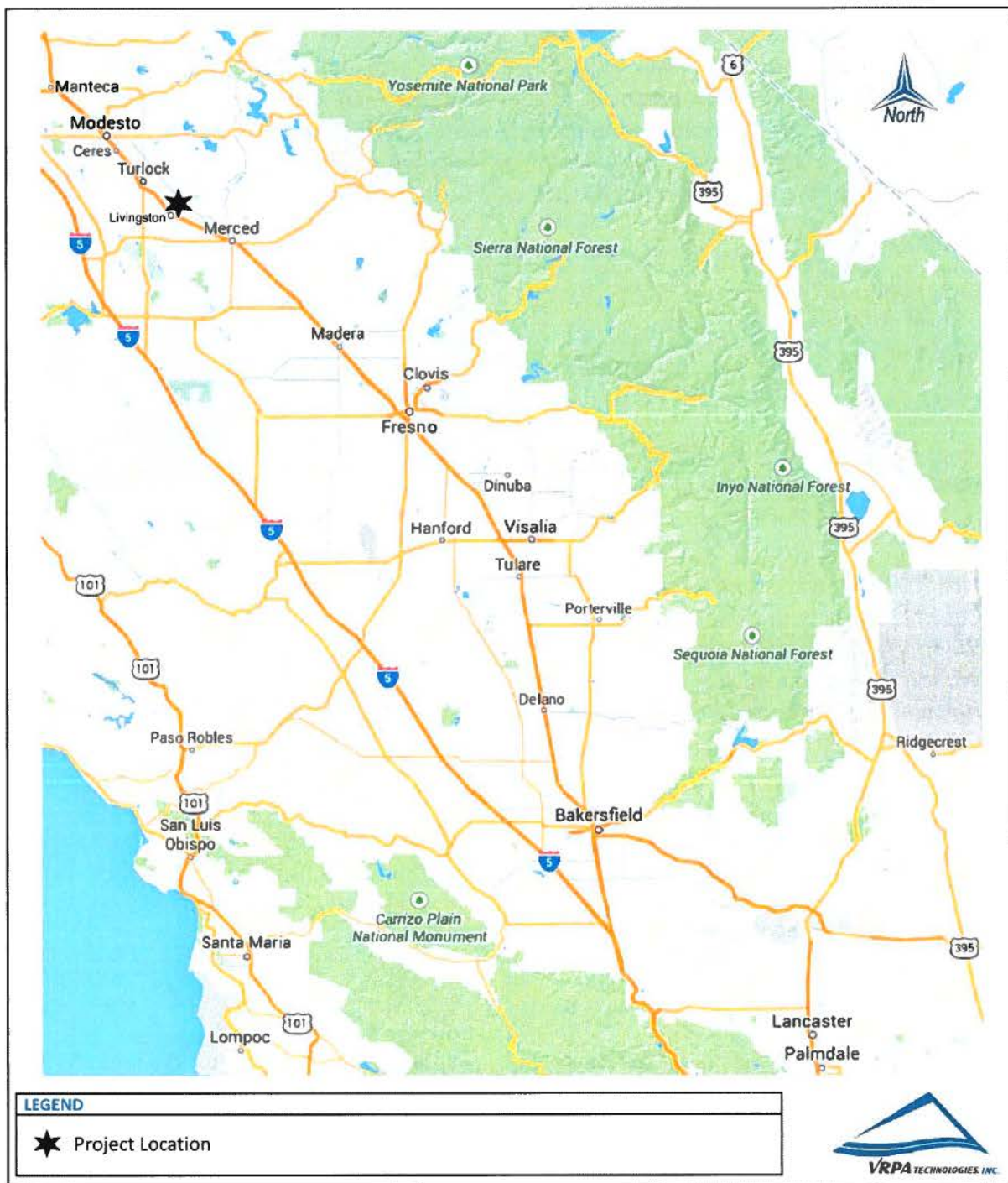
1.1.3 Study Scenarios

The TIS completed for the proposed Project includes level of service (LOS) analysis for the following traffic scenarios:

- ✓ Existing
- ✓ Existing Plus Project
- ✓ Near-Term (Project Opening Day) Plus Project
- ✓ Cumulative Year 2042 Without Project
- ✓ Cumulative Year 2042 Plus Project

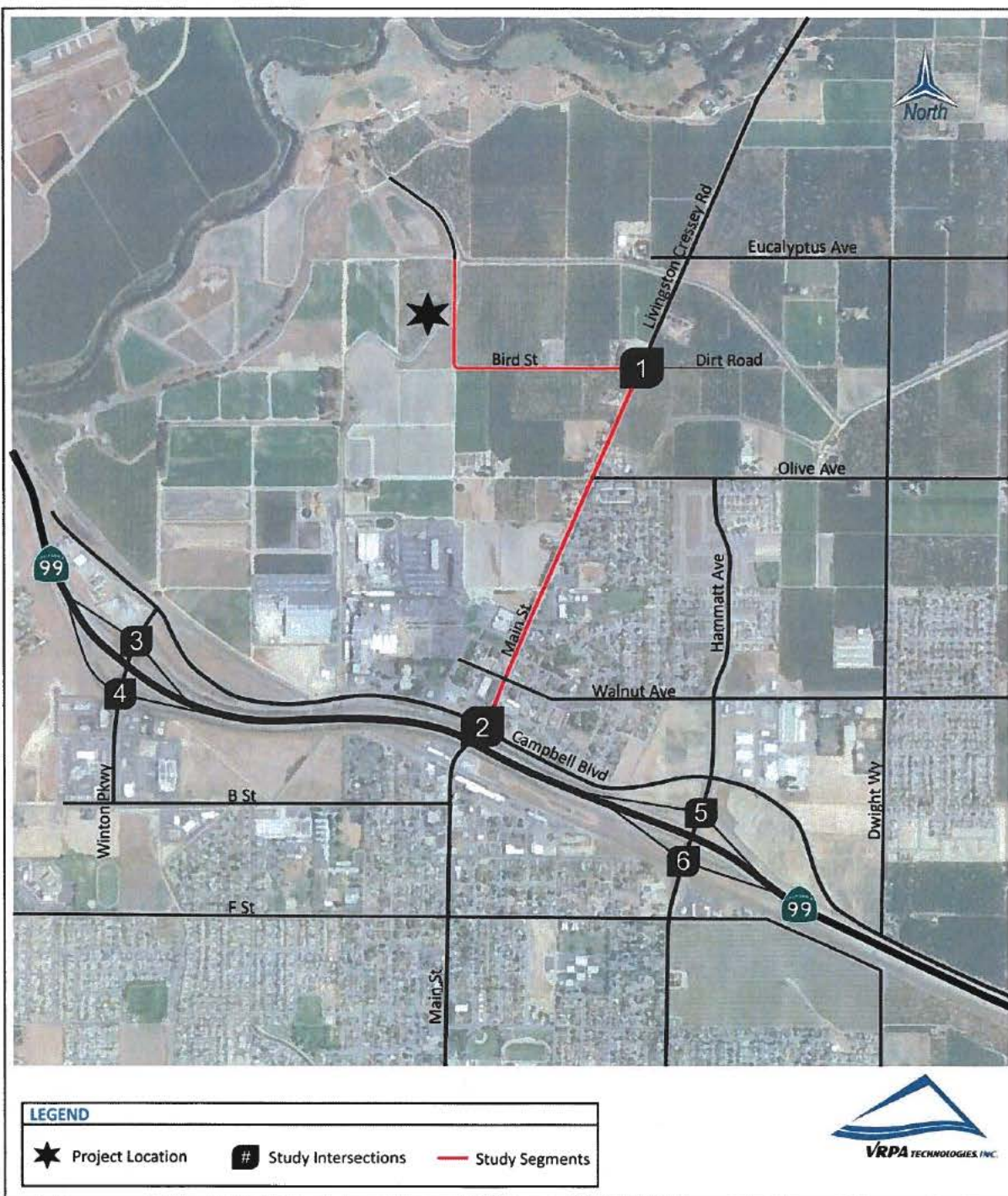
Greenzone Industrial Development Regional Location

Figure
1-1



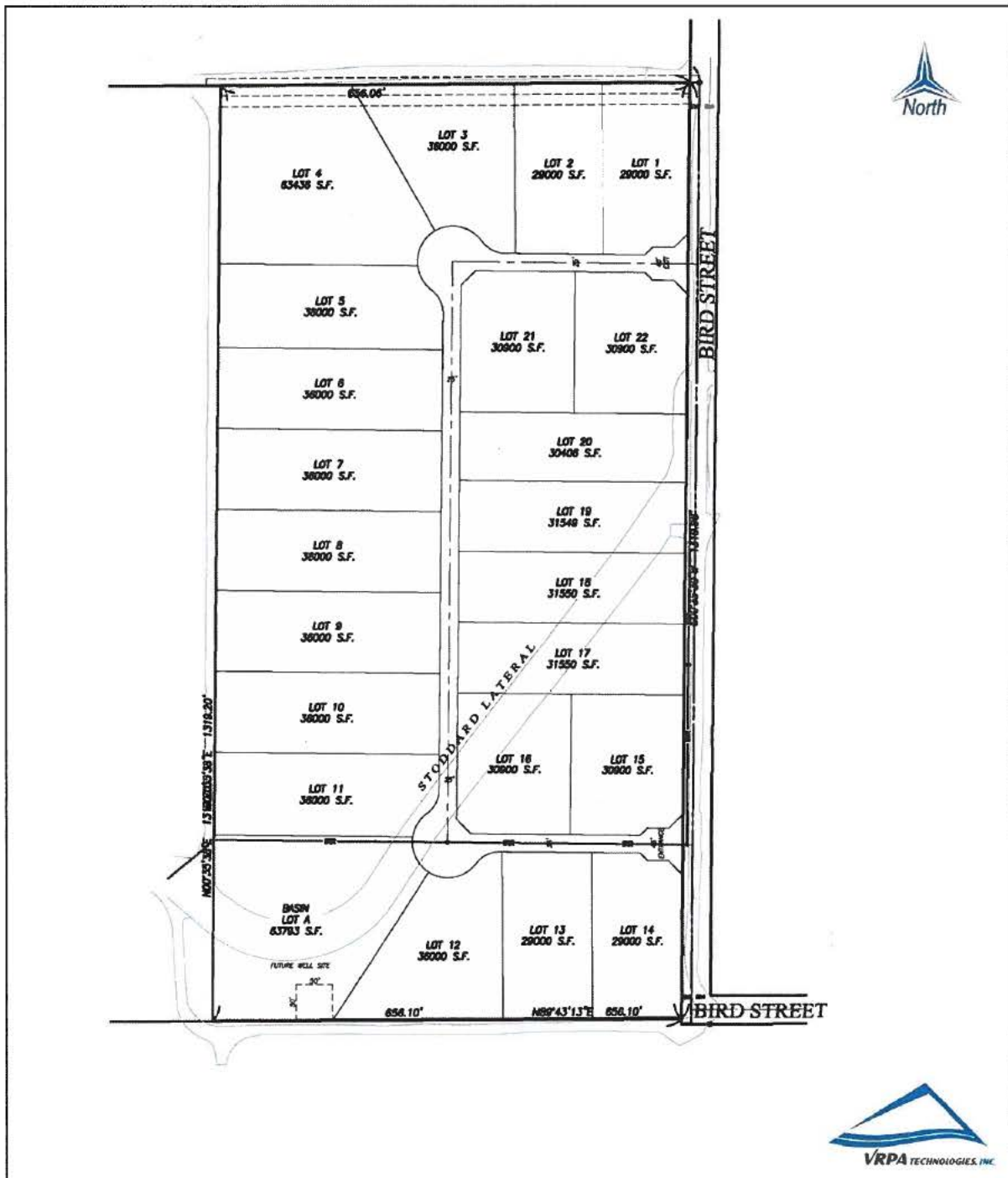
Greenzone Industrial Development Project Location

Figure
1-2



Greenzone Industrial Development
Project Site Map

Figure
1-3



1.2 Methodology

When preparing a TIS, guidelines set by affected agencies are followed. In analyzing street and intersection capacities the Level of Service (LOS) methodologies are applied. LOS standards are applied by transportation agencies to quantitatively assess a street and highway system's performance. In addition, safety concerns are analyzed to determine the need for appropriate mitigation resulting from increased traffic near sensitive uses and other evaluations such as the need for signalized intersections or other improvements.

1.2.1 Intersection Analysis

Intersection LOS analysis was conducted using the Synchro 10 software program. Synchro 10 supports the Highway Capacity Manual (HCM) 6th Edition methodologies and is an acceptable program for assessment of traffic impacts. Levels of Service can be determined for both signalized and unsignalized intersections. All of the study intersections are currently unsignalized.

Tables 1-1 and 1-2 indicate the ranges in the amounts of average delay for a vehicle at signalized and unsignalized intersections for the various levels of service ranging from LOS "A" to "F".

Intersection turning movement counts and roadway geometrics used to develop LOS calculations were obtained from field review findings and count data provided from the traffic count sources identified in Section 2.1.

When an unsignalized intersection does not meet acceptable LOS standards, the investigation of the need for a traffic signal shall be evaluated. The California Manual on Uniform Traffic Control Devices (California MUTCD) introduces standards for determining the need for traffic signals. The California MUTCD indicates that the satisfaction of one or more traffic signal warrants does not in itself require the installation of a traffic signal. In addition to the warrant analysis, an engineering study of the current or expected traffic conditions should be conducted to determine whether the installation of a traffic signal is justified. The California MUTCD Peak Hour Warrant (Warrant 3) will be used, as necessary, to determine if a traffic signal is warranted at the unsignalized intersection that falls below current LOS standards.

1.2.2 Roadway Segment Analysis

According to the HCM, LOS is categorized by two parameters of traffic: uninterrupted and interrupted flow. Uninterrupted flow facilities do not have fixed elements such as traffic signals that cause interruptions in traffic flow. Interrupted flow facilities do have fixed elements that cause an interruption in the flow of traffic, such as stop signs and signalized intersections along arterial roads. A roadway segment is defined as a stretch of roadway generally located between signalized or controlled intersections.

Segment LOS is important in order to understand whether the capacity of a roadway can accommodate future traffic volumes. Table 1-3 provides a definition of segment LOS. The performance criteria used for evaluating volumes and capacities on the road and highway system for this study were estimated using the HCM-Based LOS Tables (Florida Tables). The tables consider the capacity of individual road and highway segments based on numerous roadway variables (design speed, passing opportunities, signalized intersections per mile, number of lanes, saturation flow, etc.). Street segment capacity was determined using information shown in Table 1-4 based on the Level of Service Tables included in Appendix A.

1.3 Policies to Maintain Level of Service

An important goal is to maintain acceptable levels of service along the highway, street, and road network. To accomplish this, the City of Livingston has adopted minimum levels of service in an attempt to control congestion that may result as new development occurs.

The City of Livingston has defined LOS C as the minimum acceptable LOS at intersections and roadway segments for use in traffic studies and environmental impact reports.

Table 1-1
Signalized Intersections Level of Service Definitions
(Highway Capacity Manual)

LEVEL OF SERVICE	DEFINITION		AVERAGE TOTAL DELAY (sec/veh)
A	Describes operations with very low delay. This level of service occurs when there is no conflicting traffic for a minor street.		≤ 10.0
B	Describes operations with moderately low delay. This level generally occurs with a small amount of conflicting traffic causing higher levels of average delay.		> 10.0 - 20.0
C	Describes operations with average delays. These higher delays may result from a moderate amount of minor street traffic. Queues begin to get longer.		> 20.0 - 35.0
D	Describes a crowded operation, with below average delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from shorter gaps on the mainline and an increase of minor street traffic. The queues of vehicles are increasing.		> 35.0 - 55.0
E	Describes operations at or near capacity. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor gaps for the minor street to cross and large queues.		> 55.0 - 80.0
F	Describes operations that are at the failure point. This level, considered to be unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of the intersection. Insufficient gaps of suitable size exist to allow minor traffic to cross the intersection safely.		> 80.0

Table 1-2
Unsignalized Intersections Level of Service Definitions
(Highway Capacity Manual)

LEVEL OF SERVICE	DEFINITION		AVERAGE TOTAL DELAY (sec/veh)
A	No delay for stop-controlled approaches.		0 - 10.0
B	Describes operations with minor delay.		> 10.0 - 15.0
C	Describes operations with moderate delays.		> 15.0 - 25.0
D	Describes operations with some delays.		> 25.0 - 35.0
E	Describes operations with high delays and long queues.		> 35.0 - 50.0
F	Describes operations with extreme congestion, with very high delays and long queues unacceptable to most drivers.		> 50.0

Table 1-3
Roadway Segment Level of Service Definitions
(Highway Capacity Manual)







LEVEL OF SERVICE	DEFINITION	
A	Represents free flow. Individual vehicles are virtually unaffected by the presence of others in the traffic stream.	
B	Is in the range of stable flow, but the presence of other vehicles in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.	
C	Is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual vehicles becomes significantly affected by interactions with other vehicles in the traffic stream.	
D	Is a crowded segment of roadway with a large number of vehicles restricting mobility and a stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.	
E	Represents operating conditions at or near the level capacity. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.	
F	Is used to define forced or breakdown flow (stop-and-go gridlock). This condition exists when the amount of traffic approaches a point where the amount of traffic exceeds the amount that can travel to a destination. Operations within the queues are characterized by stop and go waves, and they are extremely unstable.	

Table 1-4
Peak One-Way Volumes

Level of Service					
Lanes	Divided	B	C	D	E
Non-State Roadways					
1	Undivided	*	180	621	837
2	Undivided	43	1,148	1,522	1,590
2	Divided	45	1,215	1,611	1,683
3	Divided	72	1,836	2,421	2,538

* Cannot be achieved using table input value defaults.

2.0 Existing Conditions

2.1 Existing Traffic Counts and Roadway Geometrics

The first step toward assessing Project traffic impacts is to assess existing traffic conditions. Existing AM and PM peak hour turning movements were collected at study intersections by National Data and Surveying Services and All Traffic Data. Intersection turning movement counts were conducted for the peak hour periods of 7:00-9:00 AM and 4:00-6:00 PM for study intersections on Tuesday, November 5, 2019, Thursday, November 7, 2019, and Tuesday, August 23, 2016. A growth factor of 2% per year was applied to the traffic counts collected in 2016 to estimate 2019 traffic. Traffic count data worksheets are provided in Appendix B.

2.2 Existing Functional Roadway Classification System

Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the type of service they are intended to provide. Fundamental to this process is the recognition that individual streets and highways do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads.

The current hierarchical system of roadways within the study area consists of the following four (4) basic classifications:

- ✓ **State Freeways and Highways** – provide for the ability to carry large traffic volumes at high speeds for long distances. Access points are fully controlled. Freeways connect points within the City/County and link the City/County to other parts of the State.
- ✓ **Arterials** – provide for mobility within the City/County, carrying through traffic on continuous routes and joining major traffic generators, freeways, and other arterials. Access to abutting private property and intersecting local streets shall generally be restricted.
- ✓ **Collectors** – provide for internal traffic movement within communities and connect local roads to arterials. Direct access to abutting private property shall generally be permitted.
- ✓ **Local Streets** – Roadways which provide direct access to abutting property and connect with other local roads, collectors, and arterials. Local roads are typically developed as two-lane undivided roadways. Access to abutting private property and intersecting streets shall be permitted.

2.3 Affected Streets and Highways

Major street and highway intersections and segments in the Project Area were analyzed to determine levels of service utilizing HCM-based methodologies described previously. The study intersections and street and highway segments included in this TIS are listed below.

Intersections

- ✓ Bird Street at Livingston Cressey Road

- ✓ Campbell Boulevard at Main Street
- ✓ Winton Parkway at SR 99 NB Ramps
- ✓ Winton Parkway at SR 99 SB Ramps
- ✓ Hammatt Avenue at SR 99 NB Ramps
- ✓ Hammatt Avenue at SR 99 SB Ramps

Roadway Segments

- ✓ Bird Street between:
 - Livingston Cressey Road and Project Driveway
- ✓ Main Street between:
 - Bird Street and Campbell Boulevard

The existing lane geometry at study area intersections and roadway segments is shown in Figure 2-1. All of the study intersections are currently unsignalized. Figures 2-2 and 2-3 shows existing traffic volumes for the Weekday AM and PM peak hours in the study area.

2.4 Level of Service

2.4.1 Intersection Capacity Analysis

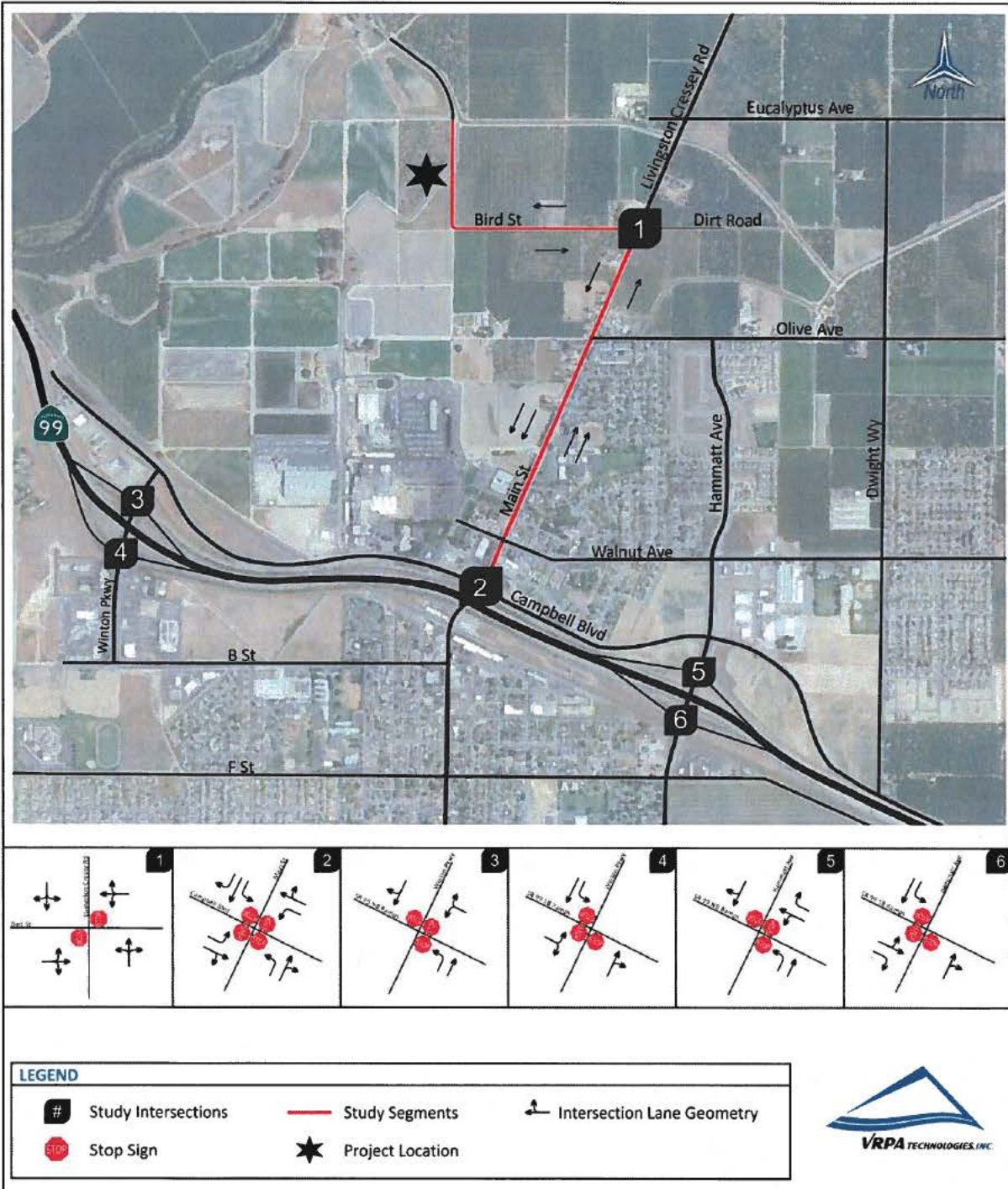
All intersection LOS analyses were estimated using the Synchro 10 software program. Various roadway geometrics, traffic volumes, and properties (peak hour factors, storage pocket length, etc.) were input into the Synchro 10 software program in order to accurately determine the travel delay and LOS for each Study scenario. The intersection LOS and delays reported represent the HCM 6th Edition outputs. Synchro assumptions, listed below, show the various Synchro inputs and methodologies used in the analysis.

- ✓ **Traffic Conditions**
 - The peak hour factor (PHF) used for Existing, Existing Plus Project, and Near-Term conditions was determined from the existing counts.
 - Roadway link speed limits will be observed in the field and input into the Synchro network to determine roadway link speeds.
 - Existing left- and right-turn storage pockets will be measured from aerial photography and incorporated into the synchro analysis.
 - Heavy vehicle percentages were applied as follows and are based on the HCM default:
 - All roadways – 3%

Results of the analysis show that the Campbell Boulevard at Main Street, Winton Parkway at SR 99 SB Ramps, and Hammatt Avenue at SR 99 NB Ramps intersections are currently operating at less than the target LOS. It should be noted that the Campbell Boulevard at Main Street intersection does not currently meet CA MUTCD Warrant 3 (Peak Hour). Table 2-1 shows the intersection LOS for existing conditions. Synchro 10 (HCM 6th Edition) Worksheets are provided in Appendix C.

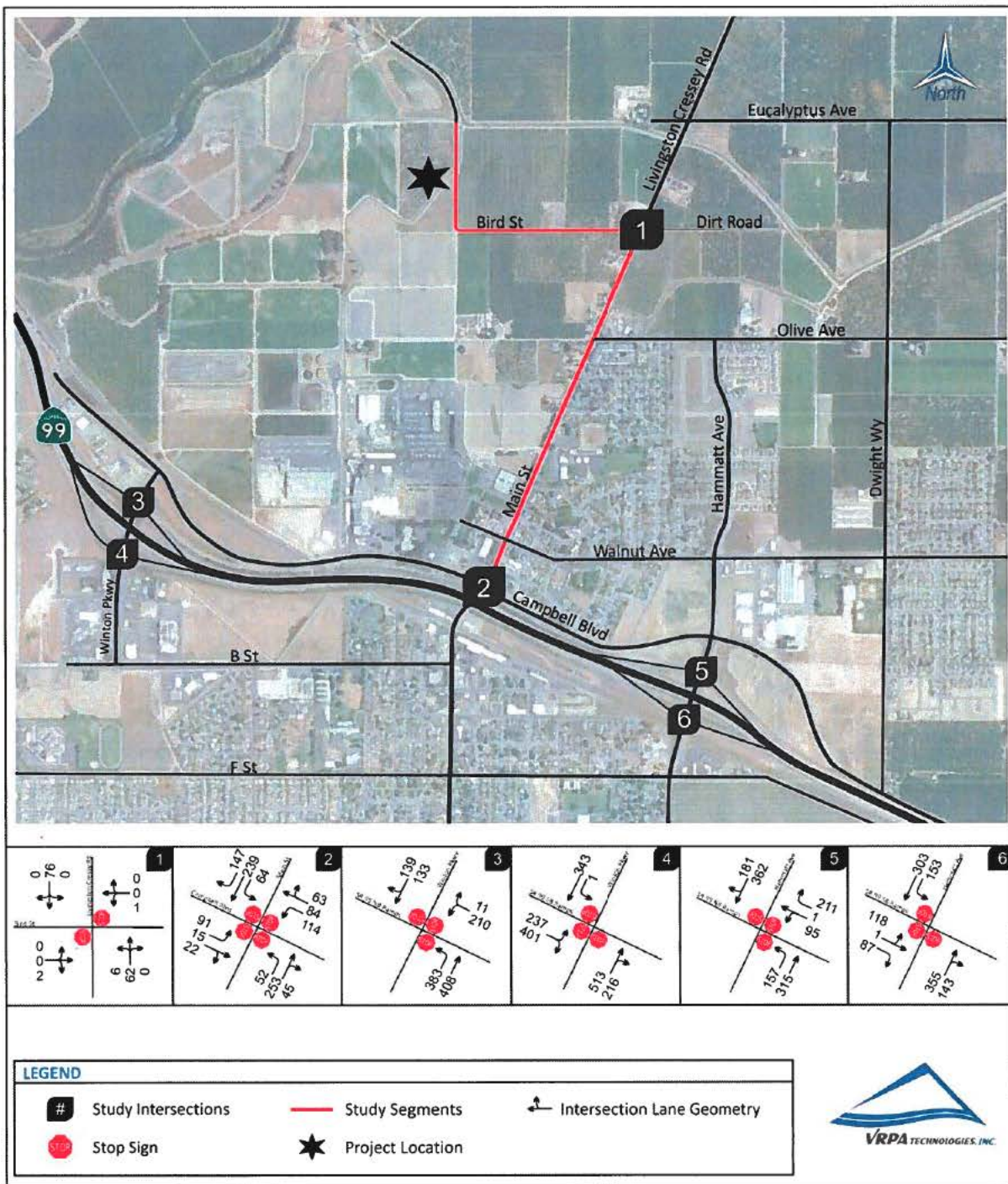
Greenzone Industrial Development
Existing Lane Geometry

Figure
2-1



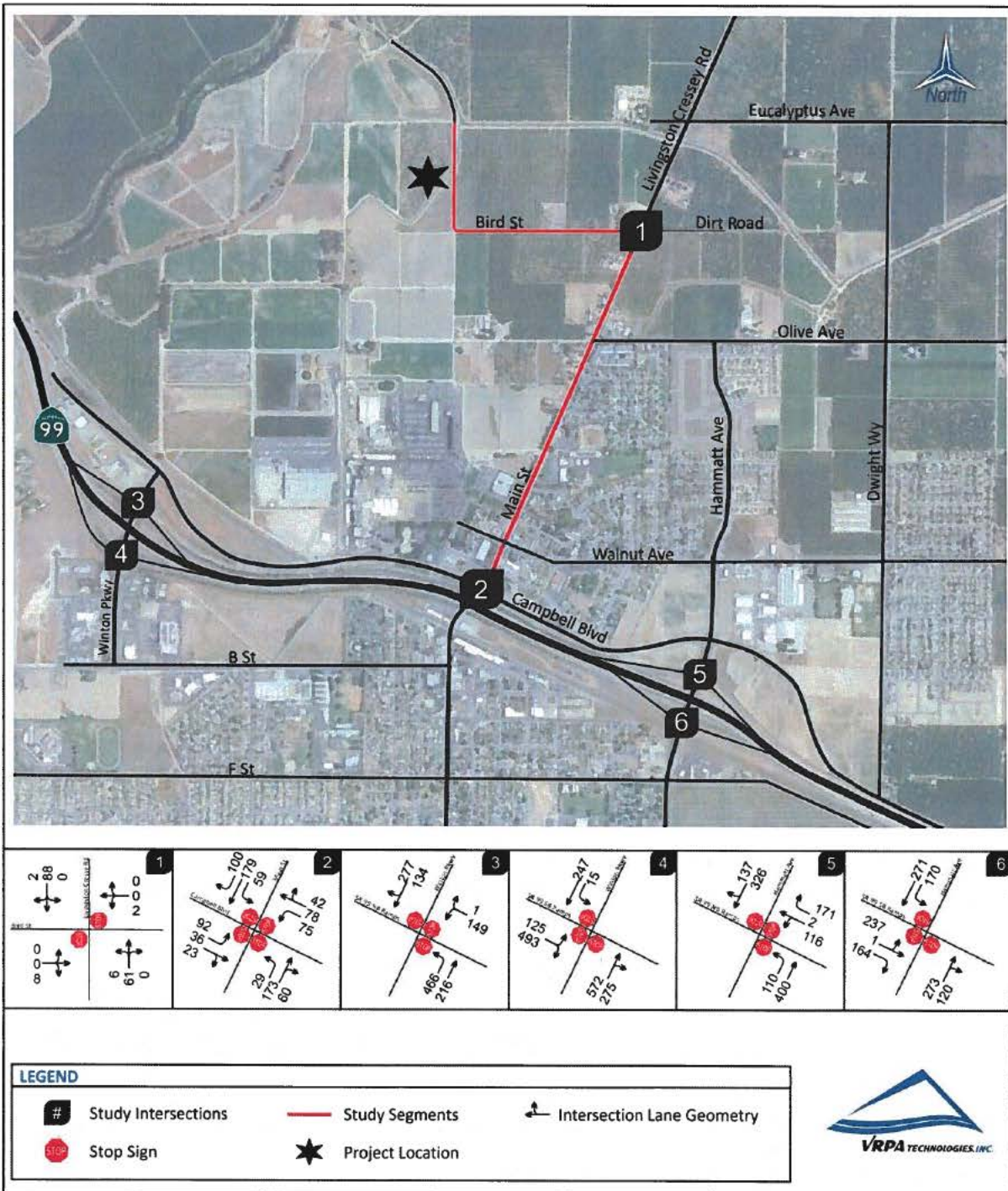
Greenzone Industrial Development
Existing AM Peak Hour Traffic

Figure
2-2



Greenzone Industrial Development
Existing PM Peak Hour Traffic

Figure
2-3



2.4.2 Queuing Analysis

Table 2-2 provides a queue length summary for study intersections for the Existing scenario. Traffic queue lengths at an intersection or along a roadway segment assist in the determination of a roadway's overall performance. Excessive queuing at an intersection increases vehicle delay and reduces capacity. If a dedicated left turn lane doesn't provide adequate storage, vehicles will queue beyond the left turn storage pocket and into other travel lanes, thus increasing vehicle delay and reducing capacity. The queuing analyses is based upon methodology presented in Chapter 400 of Caltrans' Highway Design Manual (HDM).

2.4.3 Roadway Segment Capacity Analysis

Peak hour LOS segment analysis along the existing street and highway system are reflected in Table 2-3. The performance criteria used for evaluating volumes and capacities on the road and highway system for this study were estimated using the Arterial Level of Service Tables included in Table 1-4 and Appendix A. Results of the analysis show that all of the study roadway segments are currently operating at the target LOS during the AM and PM peak hour.

Table 2-1
Existing Intersection Operations

INTERSECTION	CONTROL	TARGET LOS	PEAK HOUR	EXISTING	
				DELAY	LOS
1. Livingston Cressey Road / Bird Street	One-Way Stop	C	AM	9.7	A
			PM	10.0	B
2. Main Street / Campbell Boulevard	All-Way Stop	C	AM	38.3	E +
			PM	13.8	B
3. Winton Parkway / SR 99 NB Ramps	All-Way Stop	C	AM	16.1	C
			PM	22.3	C
4. Winton Parkway / SR 99 SB Ramps	All-Way Stop	C	AM	169.8	F ++
			PM	191.2	F ++
5. Hammatt Avenue / SR 99 NB Ramps	All-Way Stop	C	AM	37.0	E ++
			PM	26.5	D ++
6. Hammatt Avenue / SR 99 SB Ramps	All-Way Stop	C	AM	23.6	C
			PM	20.0	C

DELAY is measured in seconds

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

For All-Way Stop intersections, delay results show the average for the entire intersection. For one-way stop controlled intersections, delay results show the delay for the worst movement.

+ Does not meet peak hour signal warrants.

++ Meets peak hour signal warrants.

Table 2-2
Existing Queuing Operations

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		EXISTING CONDITIONS	
			AM Queue	PM Queue
Main Street / Campbell Boulevard	NB Left	150	43	24
	SB Left	100	53	49
	EB Left	200	76	77
	WB Left	150	95	63
	WB Right	75	168	165
Winton Parkway / SR 99 NB Ramps	NB Left	175	319	388
Winton Parkway / SR 99 SB Ramps	SB Left	200	1	13
Hammatt Avenue / SR 99 NB Ramps	NB Left	150	131	92
Hammatt Avenue / SR 99 SB Ramps	SB Left	125	128	142

Queue is measured in feet / **BOLD** denotes exceedance

Table 2-3
Existing Segment Operations

STREET SEGMENT	SEGMENT DESCRIPTION	DIRECTION	TARGET LOS	PEAK HOUR	EXISTING	
					VOLUME	LOS
Bird Street						
Livingston Cressey Road to Project Driveway	2 Lanes Undivided	EB	C	AM	2	C
				PM	8	C
		WB		AM	6	C
				PM	8	C
Main Street						
Bird Street to Olive Avenue	2 Lanes Undivided	NB	C	AM	68	C
				PM	67	C
		SB		AM	79	C
				PM	98	C
Olive Avenue to Campbell Boulevard	4 Lanes Undivided	NB	C	AM	407	C
				PM	307	C
		SB		AM	450	C
				PM	338	C

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

3.0 Traffic Impacts

This chapter provides an assessment of the traffic the Project is expected to generate and the impact of that traffic on the surrounding street system.

3.1 Trip Generation

To assess the impacts that the Project may have on the surrounding street and highway segments and intersections, the first step is to determine Project trip generation. The Project's trip generation was estimated based on trip generation rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition). The Project's estimated Daily, AM peak hour, and PM peak hour trips are shown in Table 3-1. Trips associated with the Greenzone Industrial Development were derived from the High Cube Transload and Short-Term Storage (154) Land Use in the ITE Trip Generation Manual.

Table 3-1
Project Trip Generation

LAND USE	Quantity	DAILY TRIP ENDS (ADT)		WEEKDAY AM PEAK HOUR					WEEKDAY PM PEAK HOUR				
		RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
						IN	OUT	TOTAL			IN	OUT	TOTAL
High Cube Transload and Short-Term Storage (154)	376,000 s.f	1.399	526	0.08	77:23	23	7	30	0.10	29:71	11	27	38
TOTAL TRIP GENERATION			526			23	7	30			11	27	38

Source: Generation factors from ITE Trip Generation Manual, 10th Edition.

Trip ends are one-way traffic movements, entering or leaving.

The numbers in parenthesis are ITE land use codes.

3.2 Trip Distribution

Project trip distribution is shown in Figure 3-1 and is based upon engineering judgement, prevailing traffic patterns in the study area, complementary land uses, major routes, population centers and customer base.

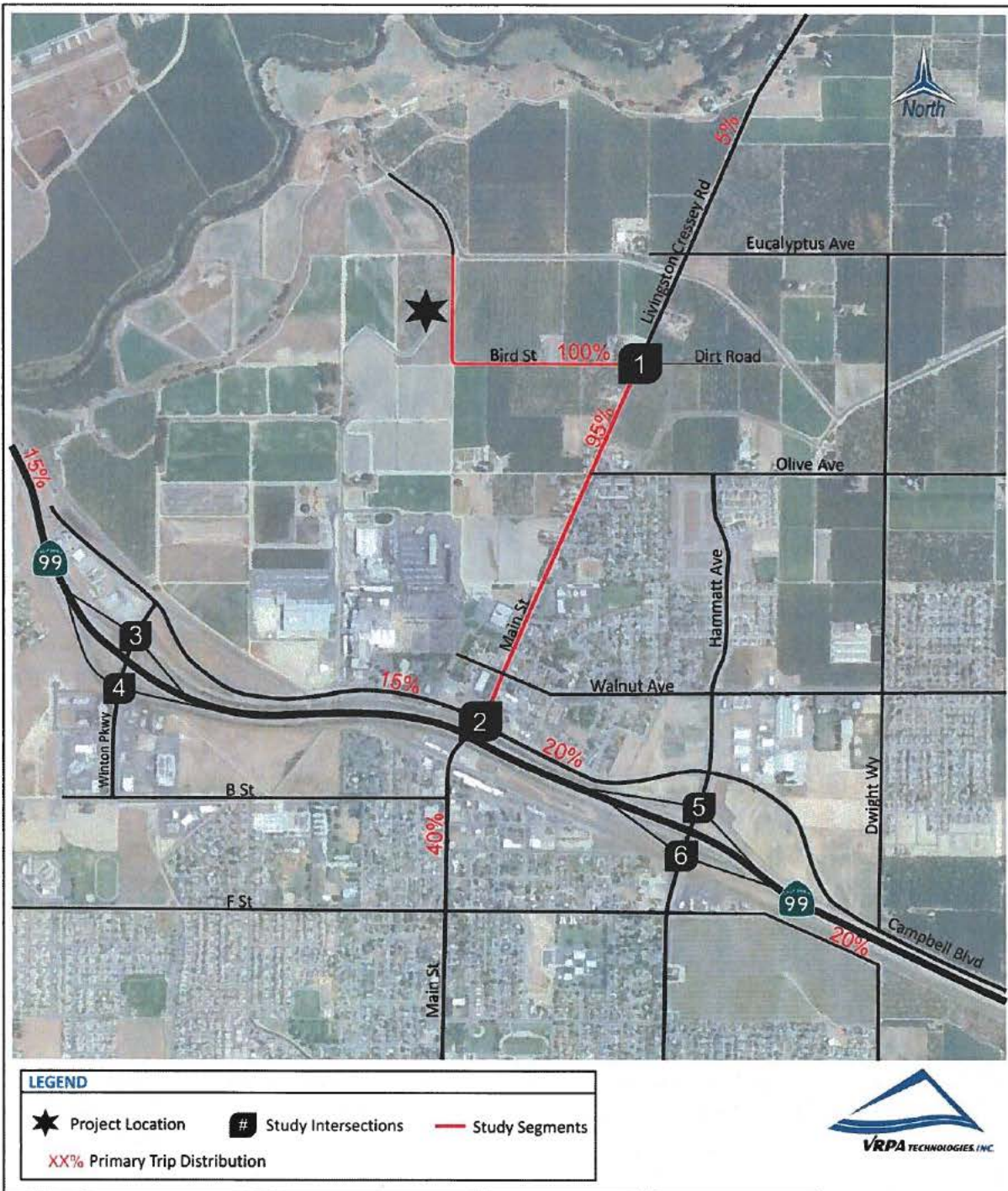
The access/egress from the site will be located along Bird Street, approximately one-half mile west of the Bird Street and Livingston Cressey Road intersection. The site map includes two (2) driveways or access/egress points from Bird Street.

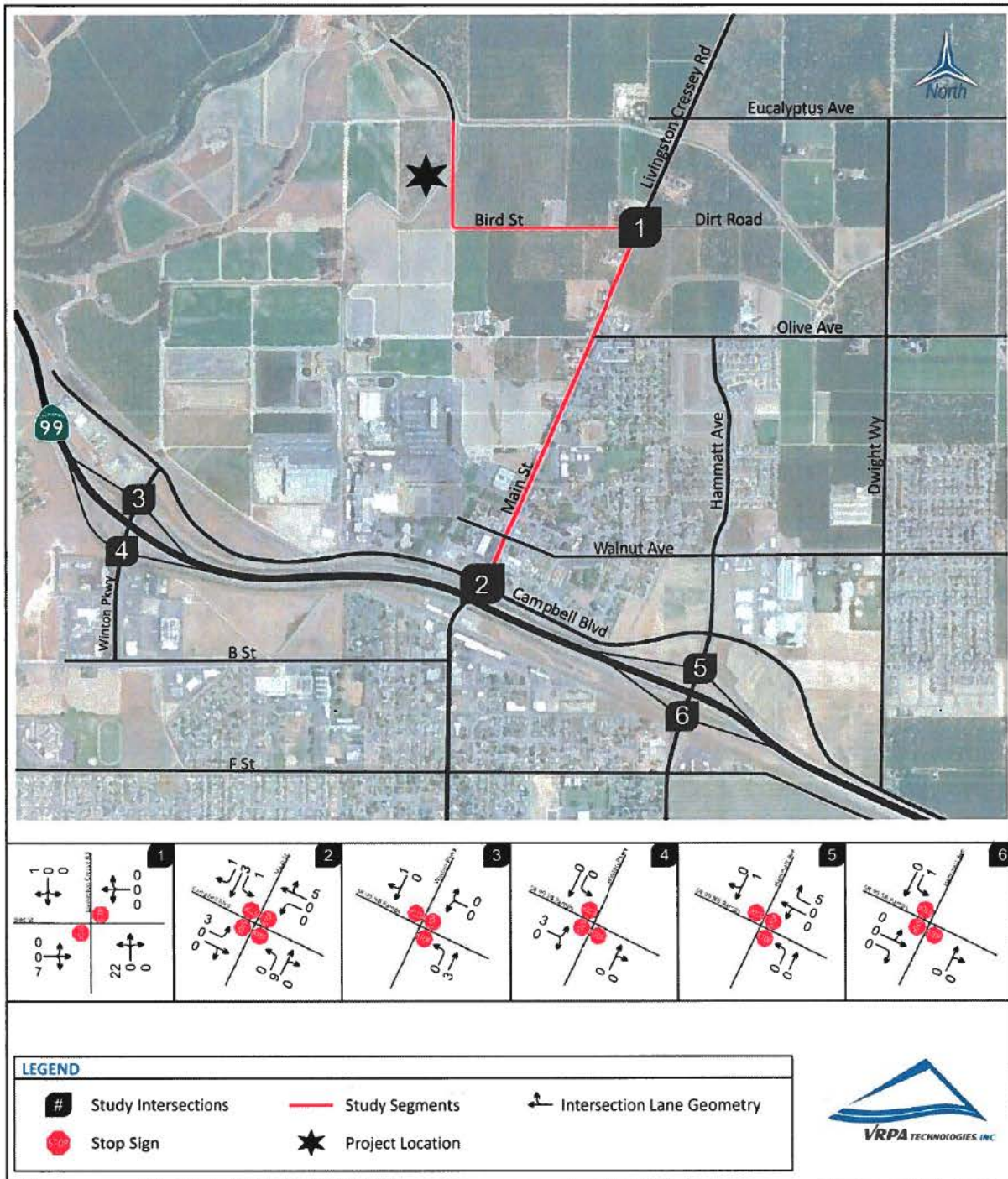
3.3 Project Traffic

Project traffic as shown in Table 3-1 was distributed to the roadway system using the trip distribution percentages shown in Figure 3-1. A graphical representation of the resulting AM and PM peak hour Project trips is shown in Figures 3-2 and 3-3.

Greenzone Industrial Development
Project Trip Distribution

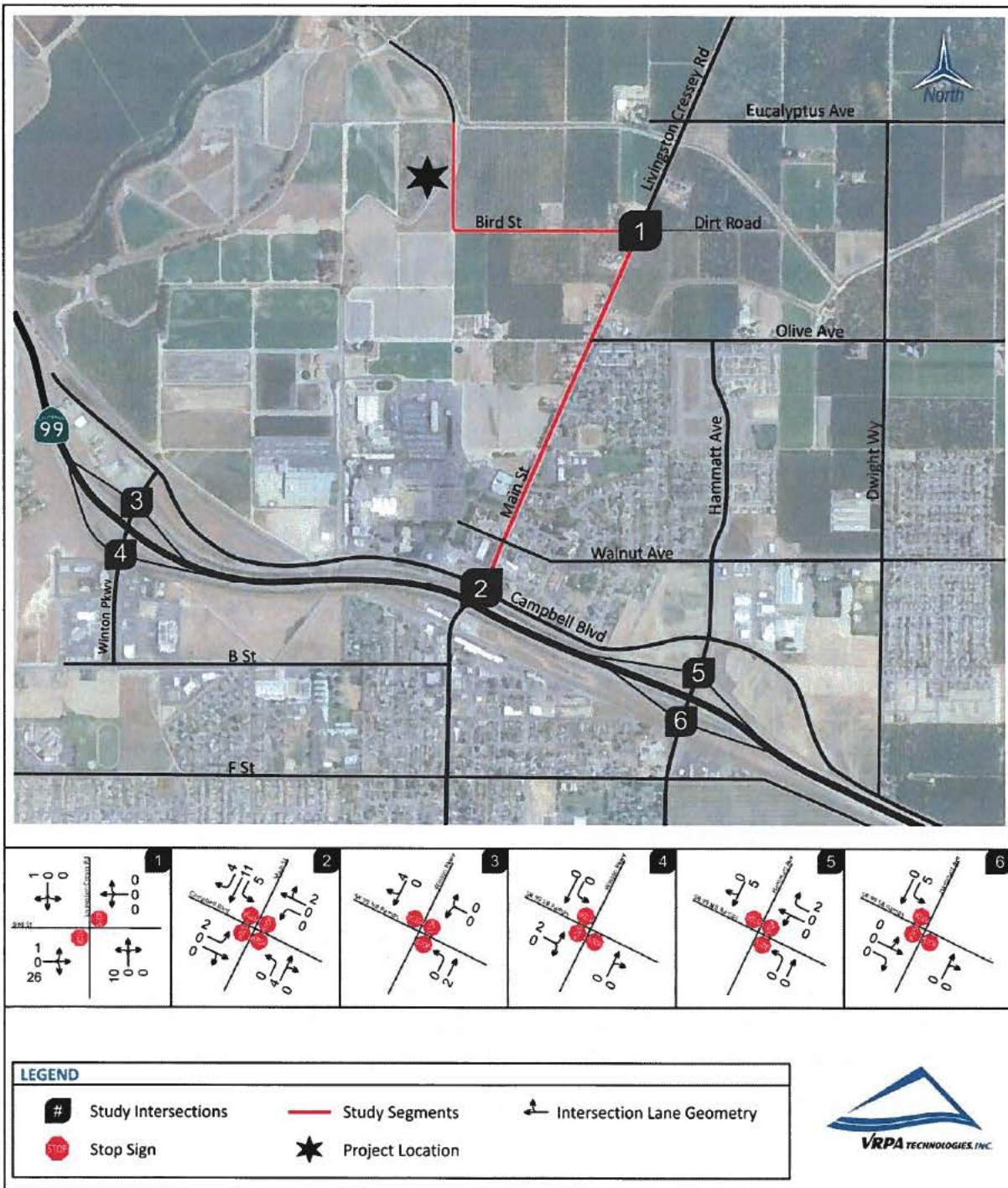
Figure
3-1



Greenzone Industrial Development
Project AM Peak Hour TrafficFigure
3-2

Greenzone Industrial Development
Project PM Peak Hour Traffic

Figure
3-3



3.4 Existing Plus Project Traffic Conditions

An Existing Plus Project Scenario was analyzed to include existing traffic plus traffic generated by the Project. The resulting traffic is shown in Figures 3-4 and 3-5.

3.5 Approved/Pending Project Traffic

Traffic impact analyses typically require the analysis of approved or pending developments that have not yet been built in the vicinity of the Project in addition to the proposed Project. City of Livingston staff was consulted for approved or pending developments in the area. The approved and/or pending projects in the study area consist of the following projects:

- ✓ Padilla's Car Sales – Used Car Lot
- ✓ Legacy Homes – 100 single family dwelling units remaining
- ✓ Arco Development – Gas Station
- ✓ Bright Development – 35 single family dwelling units remaining
- ✓ Truck Stop/Truck Wash – Formal applications yet to be submitted
- ✓ Multi-Family Residential Project – Formal applications yet to be submitted
- ✓ The Villages @ Main – 432 multi-family dwelling units
- ✓ WPD Homes – 8 single family dwelling units
- ✓ Gallo Tentative Subdivision Map
- ✓ AAA Truck Wash and Service Center

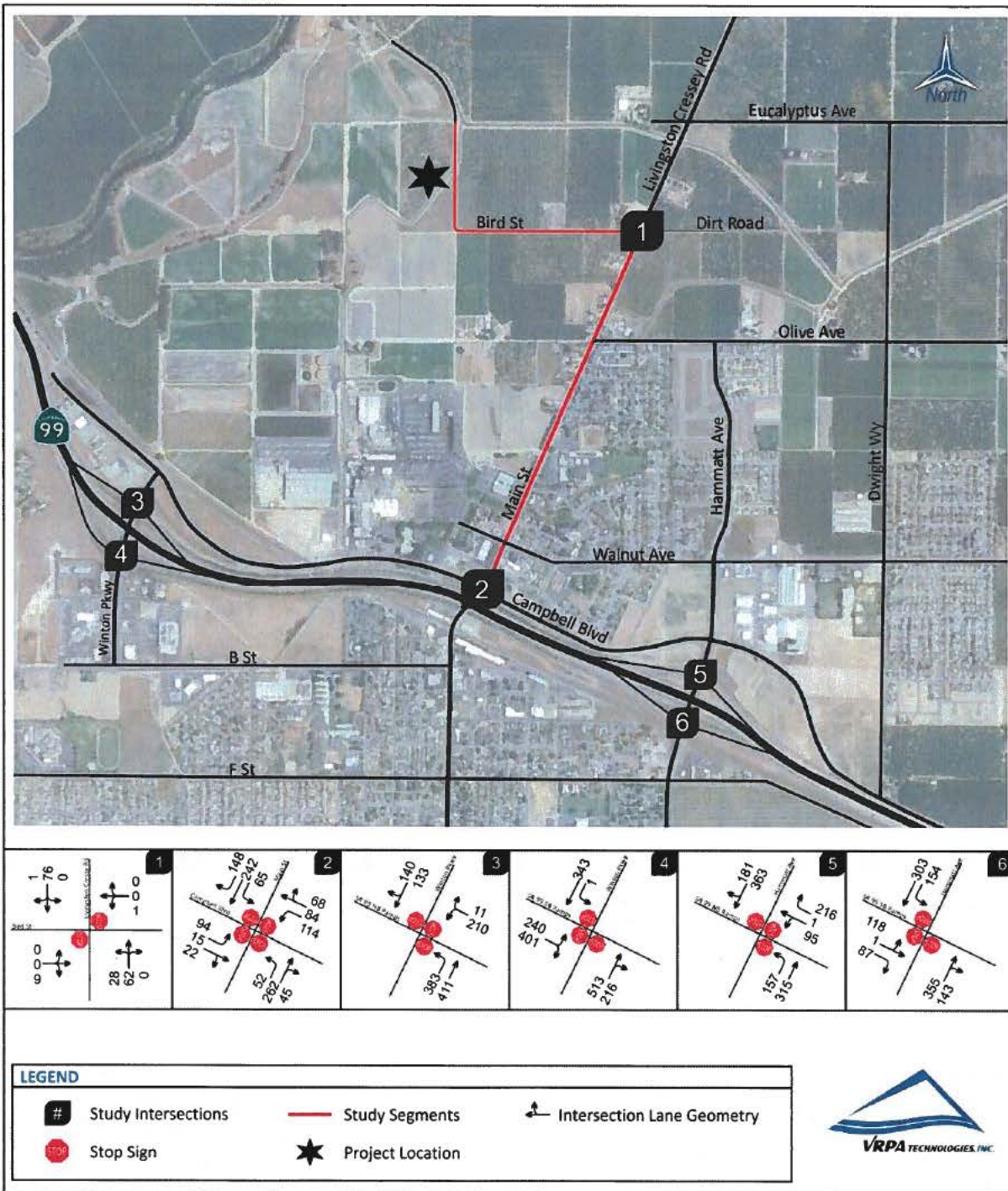
Trip generation and distribution information for the approved and pending developments was based upon the ITE Trip Generation Manual, engineering judgement, and prevailing traffic patterns. The peak hour trips for the Approved and Pending project traffic was applied to the Near-Term and Cumulative Year 2042 traffic conditions discussed later in the report.

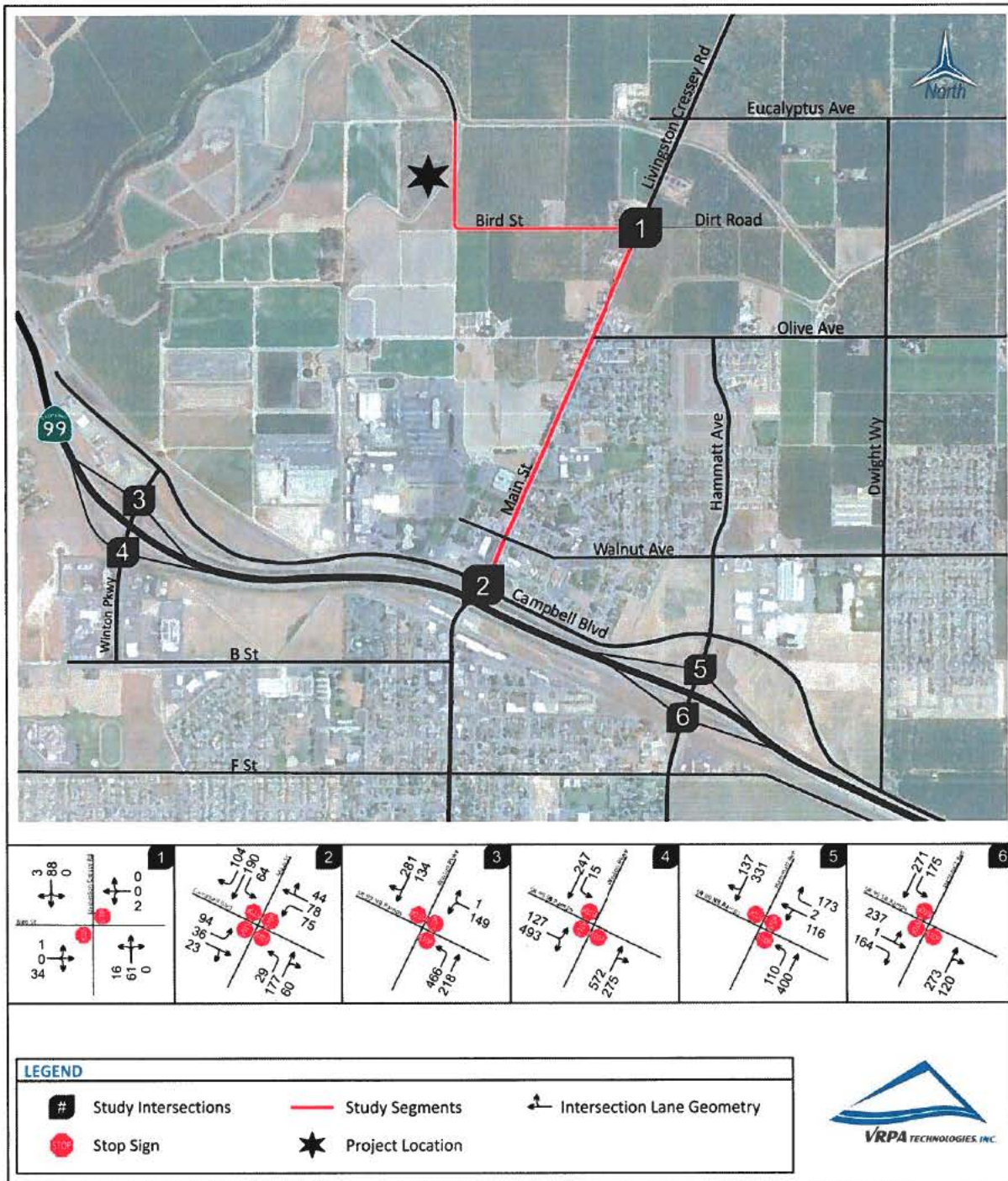
3.6 Near-Term Traffic Conditions

A Near-Term Scenario was analyzed to include year 2022 traffic (estimated Project Opening-Day) plus traffic generated by other projects approved or being processed in the study area. Traffic conditions in the Year 2022 was estimated by using a 1.26% per year growth factor for background (ambient) growth along City of Livingston facilities. This growth rate is consistent with MCAG's 2018 Regional Transportation Plan/Sustainable Communities Strategies Environmental Impact Report. The resulting traffic is shown in Figures 3-6 and 3-7.

Greenzone Industrial Development
Existing Plus Project AM Peak Hour Traffic

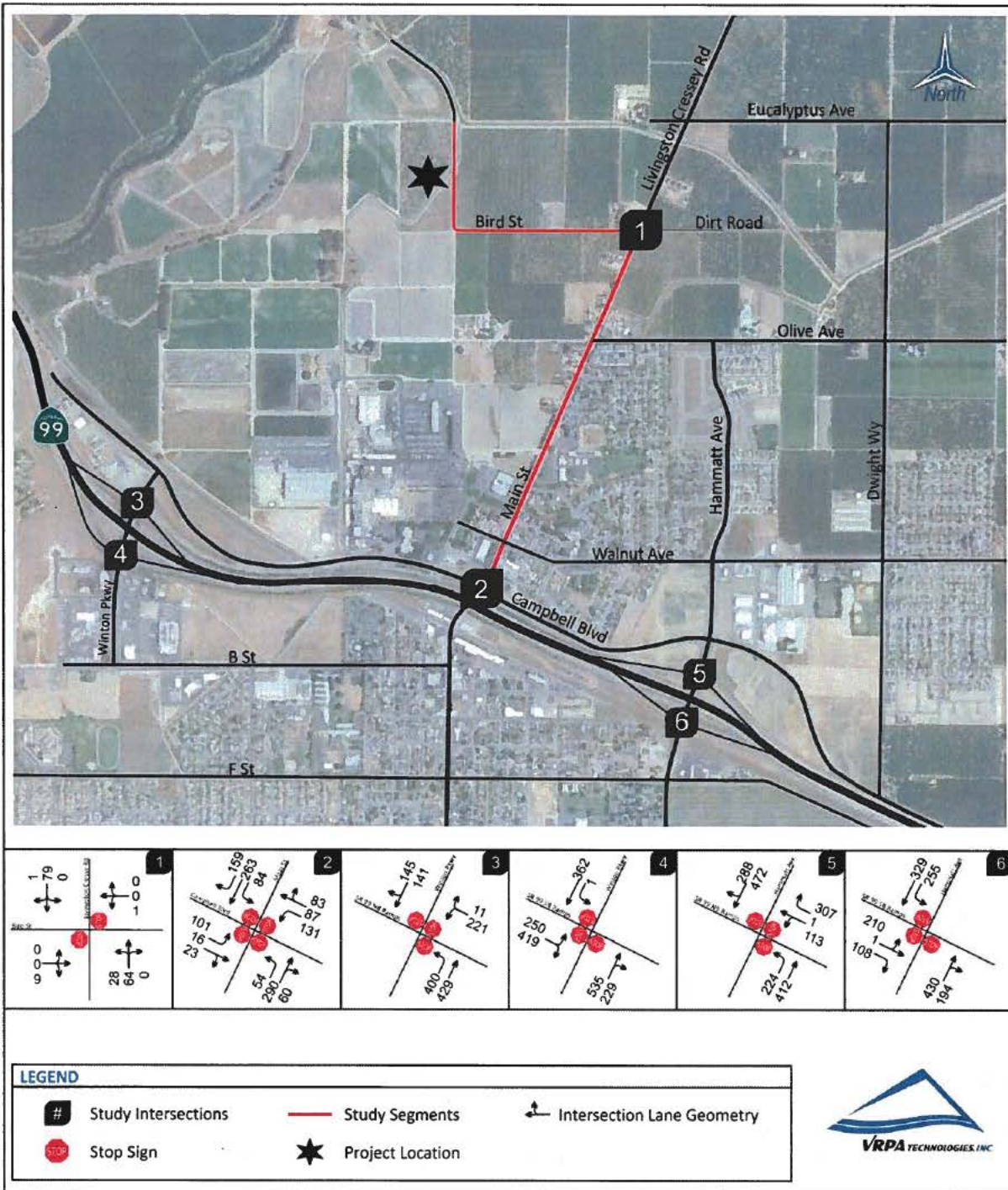
Figure
3-4

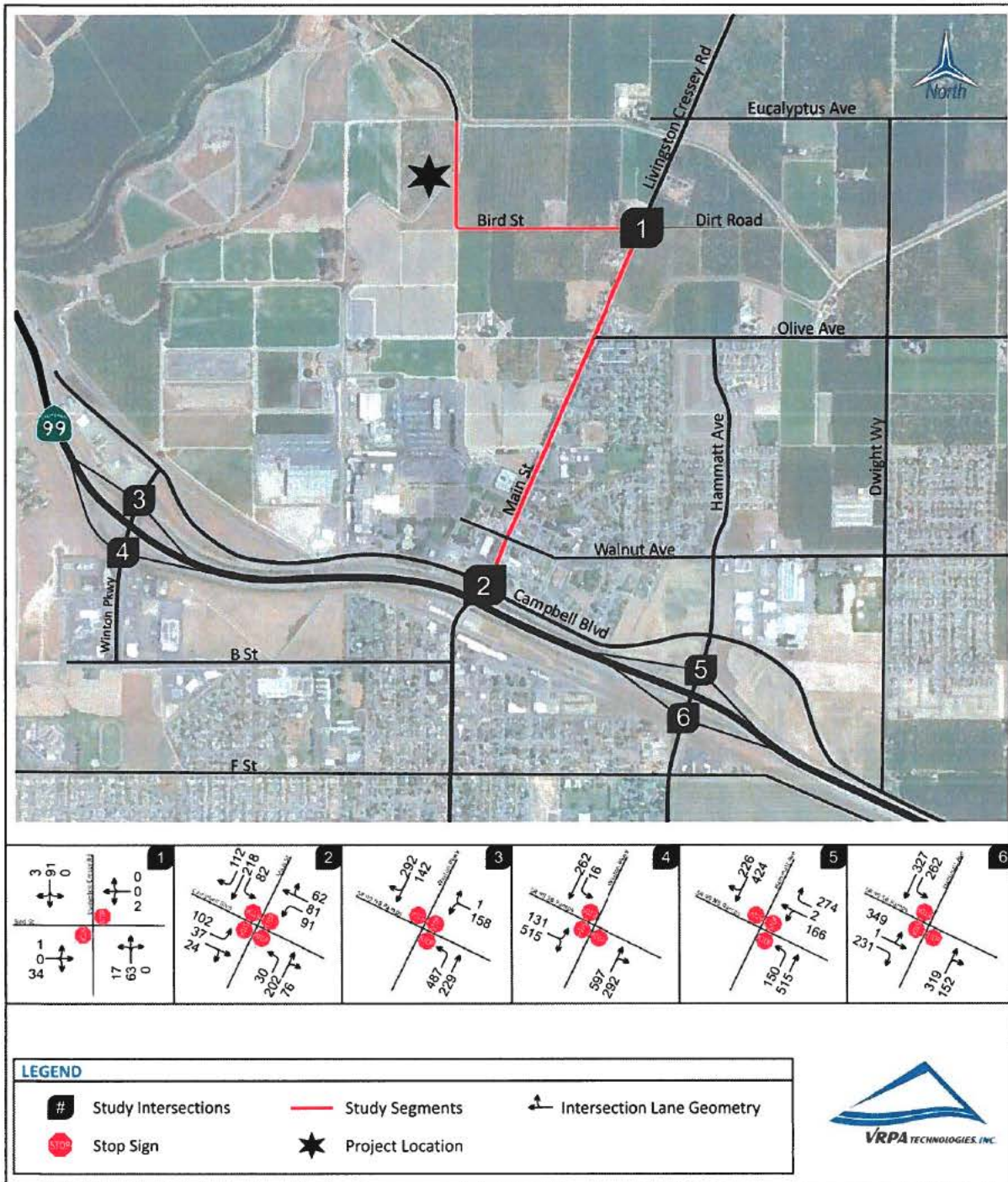


Greenzone Industrial Development
Existing Plus Project PM Peak Hour TrafficFigure
3-5

Greenzone Industrial Development
Near-Term Plus Project AM Peak Hour Traffic

Figure
3-6



Greenzone Industrial Development
Near-Term Plus Project PM Peak Hour TrafficFigure
3-7

3.7 Cumulative Year 2042 Without Project Traffic Conditions

The impacts of the Project were analyzed considering future traffic conditions, approximately twenty (20) years after the assumed opening day of the Project, or in this case the year 2042. The levels of traffic expected in 2042 relate to the cumulative effect of traffic increases resulting from the implementation of the General Plans of local agencies, including the City of Livingston and Merced County. Traffic conditions in the Year 2042 was estimated using a 1.26% per year growth factor for background (ambient) growth, which is consistent with MCAG's 2018 Regional Transportation Plan/Sustainable Communities Strategies Environmental Impact Report. Traffic conditions resulting from this scenario are shown in Figures 3-8 and 3-9.

3.8 Cumulative Year 2042 Plus Project Traffic Conditions

The addition of Project trips, which were distributed to the roadway system using the trip distribution percentages shown in Figure 3-1 (Section 3.3), were added to Cumulative Year 2042 Without Project traffic volumes. This leads to the results shown in Figures 3-10 and 3-11.

3.9 Impacts

3.9.1 Intersection Capacity Analysis

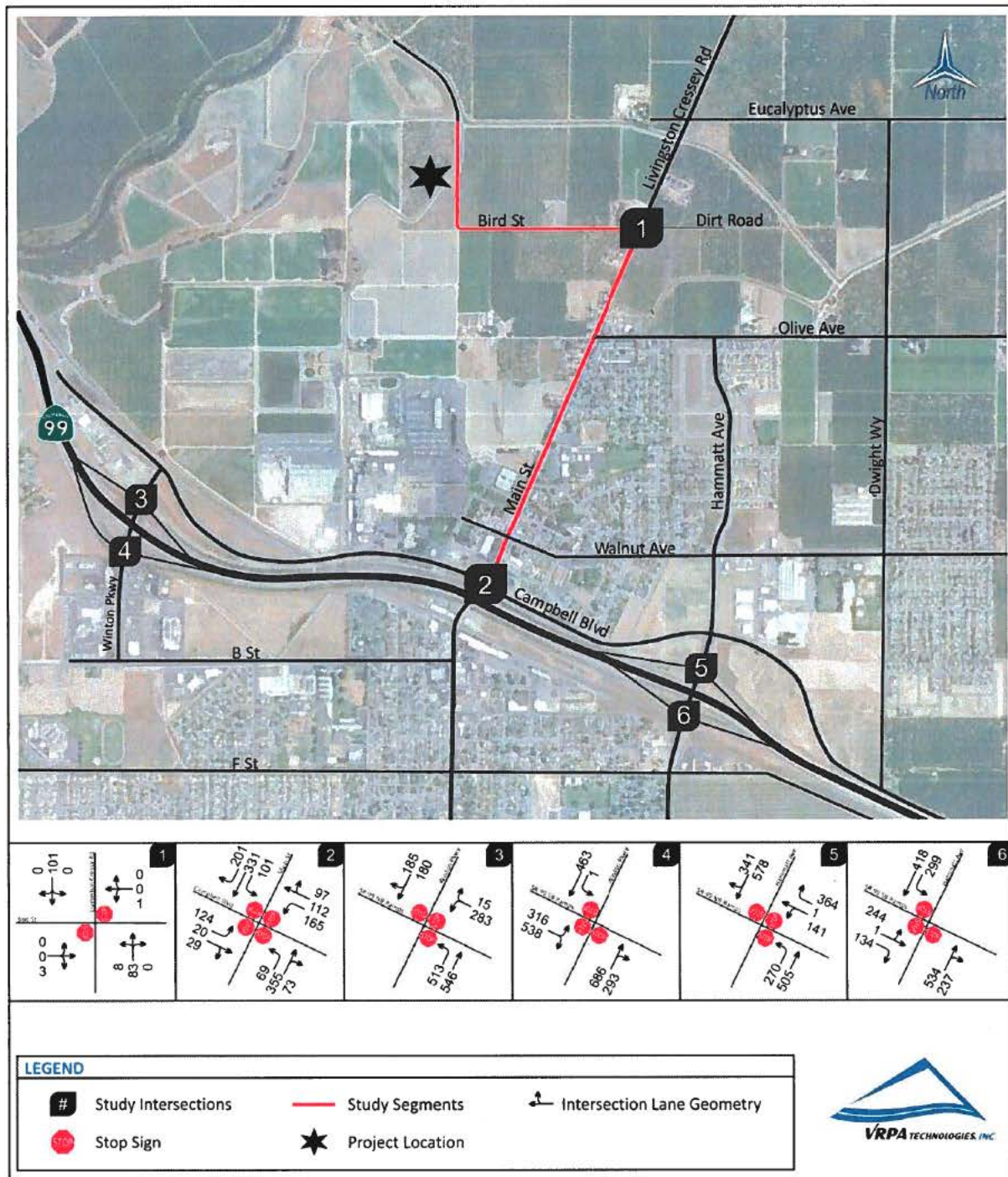
Table 3-2 shows intersections that are expected to fall short of desirable operating conditions for various scenarios. Potential mitigation measures are discussed in Chapter 4 of this report. Results of the analysis show that the Project will cause or contribute to an unacceptable LOS at all of the study intersections with the exception of Livingston Cressey Road at Bird Street when comparing the Existing and Existing Plus Project scenarios and the Cumulative Year 2042 Without Project and Cumulative Year 2042 Plus Project scenarios.

3.9.2 Queuing Analysis

Table 3-3 provides a queue length summary for left and right turn lanes at the study intersections for various study scenarios. Queuing analysis was completed using Section 400 of Caltrans' Highway Design Manual.

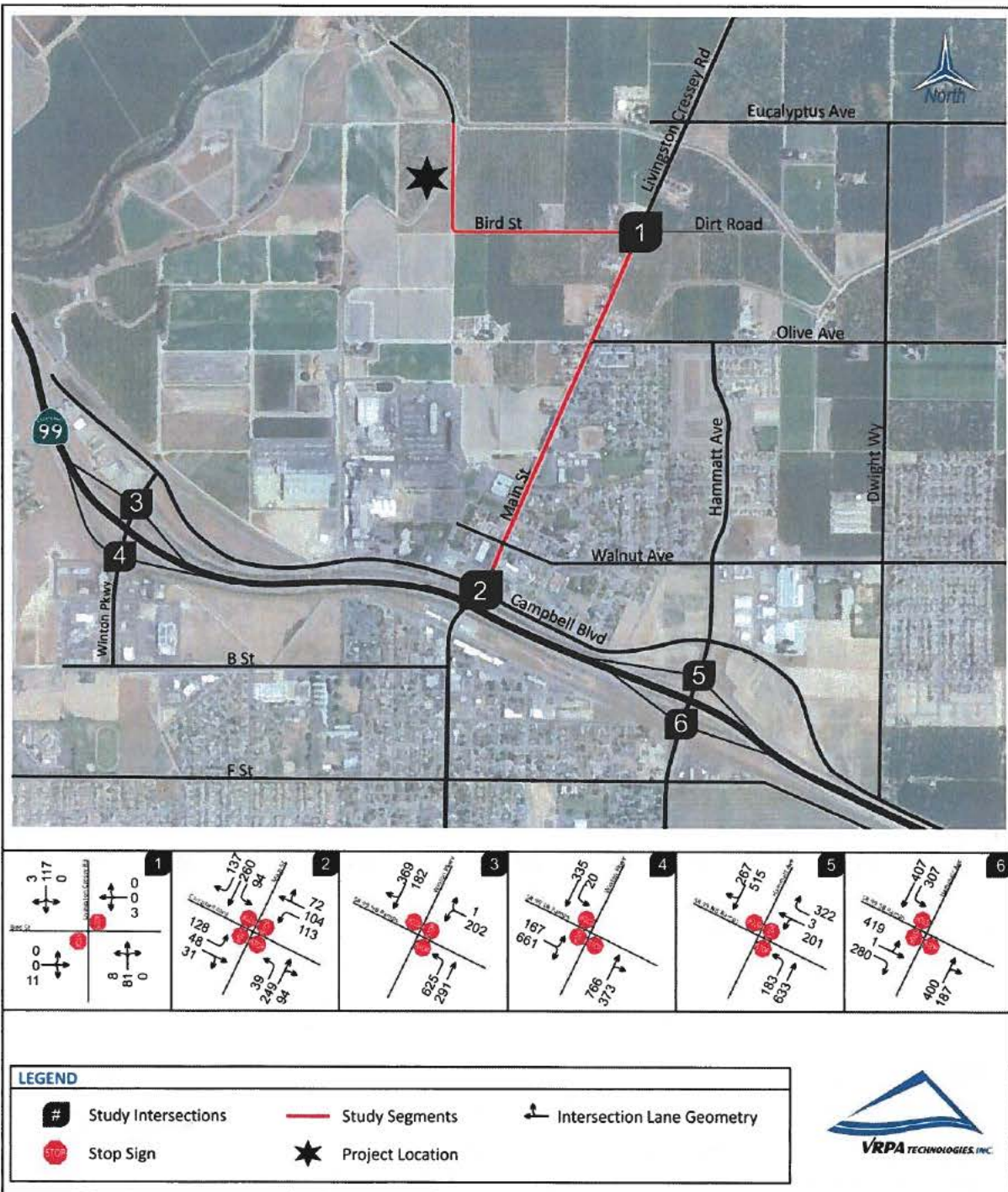
3.9.3 Roadway Segment Capacity Analysis

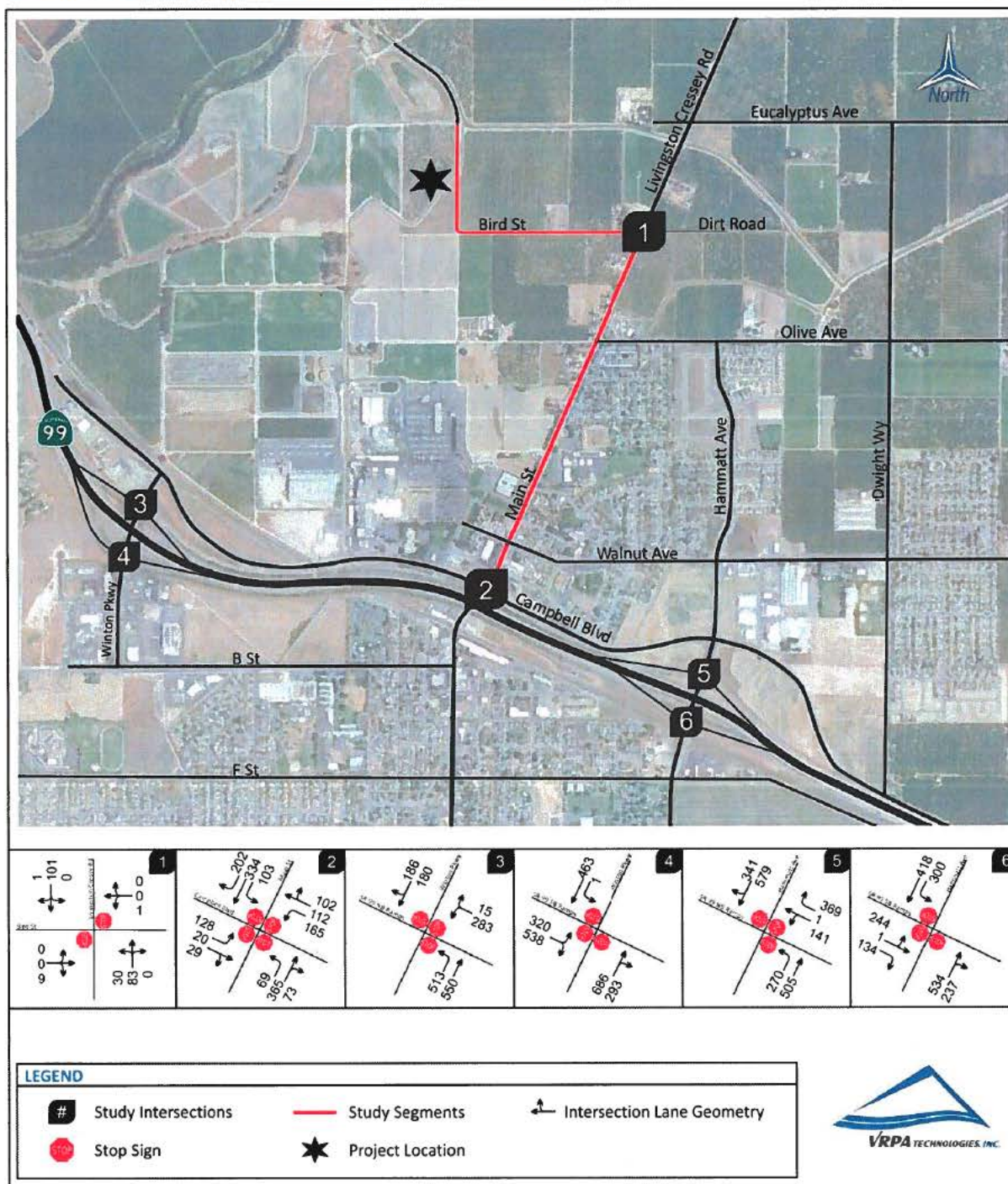
Results of the segment analysis along the existing street and highway system are reflected in Table 3-4. Results of the analysis show that all of the roadway segments will operate at acceptable levels of service through the Cumulative Year 2042 Plus Project scenario.

Greenzone Industrial Development
Cumulative Year 2042 Without Project AM Peak Hour TrafficFigure
3-8

Greenzone Industrial Development
Cumulative Year 2042 Without Project PM Peak Hour Traffic

Figure
3-9



Greenzone Industrial Development
Cumulative Year 2042 Plus Project AM Peak Hour TrafficFigure
3-10

Greenzone Industrial Development
Cumulative Year 2042 Plus Project PM Peak Hour Traffic

Figure
3-11

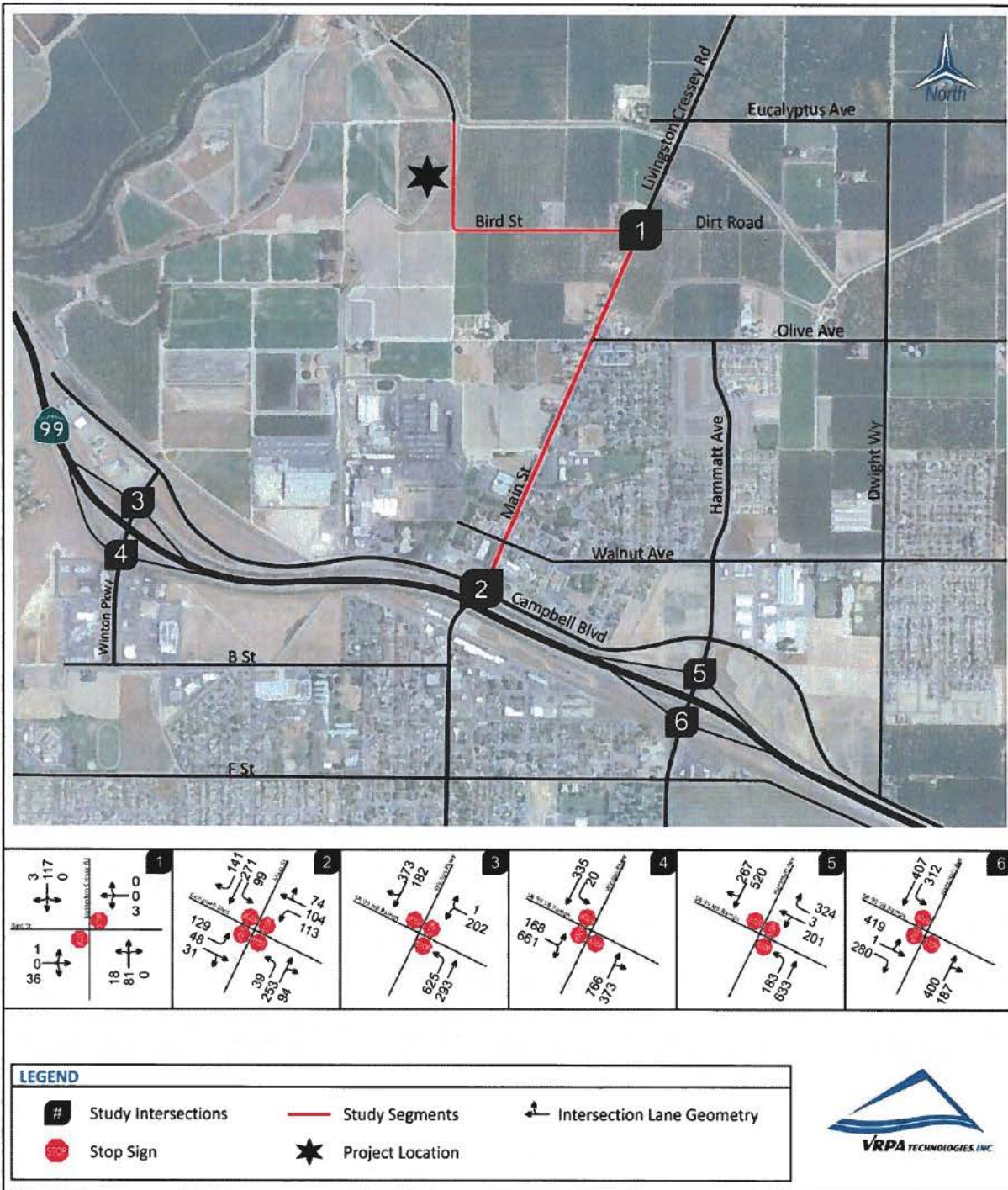


Table 3-2
Intersection Operations

INTERSECTION	CONTROL	TARGET LOS	PEAK HOUR	EXISTING PLUS PROJECT		NEAR-TERM PLUS PROJECT		CUMULATIVE YEAR 2042 WITHOUT PROJECT		CUMULATIVE YEAR 2042 PLUS PROJECT	
				DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS
1. Livingston Cressey Road / Bird Street	One-Way Stop	C	AM	10.3	B	10.4	B	10.2	B	14.8	B
			PM	10.9	B	11.0	B	10.6	B	11.6	B
2. Main Street / Campbell Boulevard	All-Way Stop	C	AM	41.0	E +	68.1	F ++	149.4	F ++	159.3	F ++
			PM	14.2	B	17.6	C	35.5	E ++	36.8	E ++
3. Winton Parkway / SR 99 NB Ramps	All-Way Stop	C	AM	19.2	C	21.4	C	57.5	F ++	58.4	F ++
			PM	22.4	C	26.1	D +	74.9	F ++	75.3	F ++
4. Winton Parkway / SR 99 SB Ramps	All-Way Stop	C	AM	170.6	F ++	197.2	F ++	371.5	F ++	--*	F ++
			PM	191.9	F ++	219.5	F ++	--*	F ++	--*	F ++
5. Hammatt Avenue / SR 99 NB Ramps	All-Way Stop	C	AM	37.7	E ++	136.0	F ++	226.3	F ++	227.6	F ++
			PM	27.2	D ++	104.8	F ++	193.6	F ++	196.1	F ++
6. Hammatt Avenue / SR 99 SB Ramps	All-Way Stop	C	AM	23.6	C	68.1	F ++	140.5	F ++	140.5	F ++
			PM	20.0	C	43.8	E ++	91.0	F ++	91.2	F ++

DELAY is measured in seconds

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

For All-Way Stop intersections, delay results show the average for the entire intersection. For one-way stop controlled intersections, delay results show the delay for the worst movement.

+ Does not meet peak hour signal warrants.

++ Meets peak hour signal warrants.

* Delay Exceeds 300 seconds.

Table 3-3
Queuing Operations

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)	EXISTING PLUS PROJECT		NEAR-TERM PLUS PROJECT		CUMULATIVE YEAR 2042 WITHOUT PROJECT		CUMULATIVE YEAR 2042 PLUS PROJECT	
		AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue
Main Street / Campbell Boulevard	NB Left	150	43	24	45	58	33	58	33
	SB Left	100	54	53	70	84	78	86	83
	EB Left	200	78	78	84	103	107	107	108
	WB Left	150	95	63	109	76	138	138	94
	WB Right	75	57	37	69	81	60	85	62
Winton Parkway / SR 99 NB Ramps	NB Left	175	319	388	333	428	521	428	521
Winton Parkway / SR 99 SB Ramps	SB Left	200	1	13	1	13	17	1	17
Hammatt Avenue / SR 99 NB Ramps	NB Left	150	131	92	187	125	225	153	225
Hammatt Avenue / SR 99 SB Ramps	SB Left	125	128	146	213	249	256	250	260

Queue is measured in feet / **BOLD** denotes exceedance

Table 3-4
Segment Operations

STREET SEGMENT	SEGMENT DESCRIPTION	DIRECTION	TARGET LOS	PEAK HOUR	EXISTING PLUS PROJECT		NEAR-TERM PLUS PROJECT		CUMULATIVE YEAR 2042 WITHOUT PROJECT		CUMULATIVE YEAR 2042 PLUS PROJECT	
					VOLUME	LOS	VOLUME	LOS	VOLUME	LOS	VOLUME	LOS
Bird Street												
Livingston Cressey Road to Project Driveway	2 Lanes Undivided	EB	C	AM	9	C	9	C	3	C	10	C
				PM	35	C	35	C	11	C	38	C
		WB		AM	29	C	29	C	8	C	31	C
				PM	19	C	19	C	11	C	22	C
Main Street												
Bird Street to Olive Avenue	2 Lanes Undivided	NB	C	AM	90	C	92	C	91	C	113	C
				PM	77	C	80	C	89	C	100	C
		SB		AM	86	C	89	C	105	C	112	C
				PM	124	C	127	C	131	C	156	C
Olive Avenue to Campbell Boulevard	4 Lanes Undivided	NB	C	AM	424	C	474	C	577	C	594	C
				PM	315	C	366	C	448	C	457	C
		SB		AM	455	C	505	C	633	C	638	C
				PM	358	C	411	C	491	C	511	C

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

4.0 Mitigation

This chapter describes potential improvements to mitigate the traffic impacts of the Project. Described below are potential improvements at study area intersections for various scenarios. In order to mitigate the Project's impacts, the Project may be required to build improvements that are identified under the 'Existing Plus Project' condition to improve identified LOS deficiencies. The Project will be required to contribute a fair share towards the costs of improvements that are identified for the Cumulative Year 2042 scenarios.

4.1 Recommended Improvements

Intersections

✓ Main Street at Campbell Boulevard

Recommended improvements to achieve acceptable levels of service:

- Near-Term Plus Project scenario:
 - Install Traffic Signal
- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the westbound approach to 1 left turn lane, 1 through lane, and 1 right turn lane (adding 1 right turn lane)

The improvements identified above for the Near-Term Plus Project, and Cumulative Year 2042 Plus Project scenarios are sufficient to meet the City of Livingston's acceptable LOS standard of 'C'. Improvements were not recommended for the Existing Plus Project scenario since the minor street approach does not generate enough traffic to justify installation of a traffic signal.

✓ Winton Parkway at SR 99 NB Ramps

Recommended improvements to achieve acceptable levels of service:

- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the southbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)

The improvements identified above for the Cumulative Year 2042 Plus Project scenario are sufficient to meet the City of Livingston's acceptable LOS standard of 'C'.

✓ Winton Parkway at SR 99 SB Ramps

Recommended improvements to achieve acceptable levels of service:

- Existing Plus Project and Near-Term Plus Project scenarios:
 - Install Traffic Signal

- Widen the northbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)
- Widen the eastbound approach to 1 left turn lane and 1 right turn lane (adding 1 left turn lane)
- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the northbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)
 - Widen the eastbound approach to 1 left turn lane and 2 right turn lane (adding 1 left turn lane and 1 right turn lane)

The improvements identified above for the Existing Plus Project, Near-Term Plus Project, and Cumulative Year 2042 Plus Project scenarios are sufficient to meet the City of Livingston's acceptable LOS standard of 'C'.

✓ Hammatt Avenue at SR 99 NB Ramps

Recommended improvements to achieve acceptable levels of service:

- Existing Plus Project scenario:
 - Install Traffic Signal
- Near-Term Plus Project scenario:
 - Install Traffic Signal
 - Widen the westbound approach to 1 left-through lane and 2 right turn lanes (adding 1 right turn lane)
- Cumulative Year 2042 Plus Project scenario:
 - Install Traffic Signal
 - Widen the southbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)
 - Widen the westbound approach to 1 left-through lane and 2 right turn lanes (adding 1 right turn lane)

The improvements identified above for the Existing Plus Project, Near-Term Plus Project, and Cumulative Year 2042 Plus Project scenarios are sufficient to meet the City of Livingston's acceptable LOS standard of 'C'.

✓ Hammatt Avenue at SR 99 SB Ramps

Recommended improvements to achieve acceptable levels of service:

- Near-Term Plus Project scenario:
 - Install Traffic Signal
- Cumulative Year 2042 Plus Project scenario:

- Install Traffic Signal
- Widen the northbound approach to 1 through lane and 1 right turn lane (adding 1 right turn lane)

The improvements identified above for the Near-Term Plus Project and Cumulative Year 2042 Plus Project scenarios are sufficient to meet the City of Livingston's acceptable LOS standard of 'C'.

Post-Mitigation Level of Service

The level of service resulting from the potential improvements identified above is shown in Table 4-1 for study area intersections. In addition to the proposed improvements identified above, Table 4-2 identifies left turn and right turn pocket lengths required for the Cumulative Year 2042 scenario. The determination of the recommended storage length was determined by the queuing analysis and recommendations of storage lengths found in Chapter 400 of Caltrans' Highway Design Manual. The left turn and right turn pocket length do not include deceleration lengths.

The resulting Cumulative Year 2042 lane geometry at study intersections is shown in Figure 4-1.

Table 4-1
Intersection Operations with Mitigation

INTERSECTION	CONTROL	TARGET LOS	PEAK HOUR	EXISTING PLUS PROJECT		NEAR-TERM PLUS PROJECT		CUMULATIVE YEAR 2042 PLUS PROJECT	
				DELAY	LOS	DELAY	LOS	DELAY	LOS
2. Main Street / Campbell Boulevard	Signalized	C	AM			22.1	C	23.4	C
			PM			17.7	B	19.3	B
3. Winton Parkway / SR 99 NB Ramps	Signalized	C	AM					14.4	B
			PM					32.5	C
4. Winton Parkway / SR 99 SB Ramps	Signalized	C	AM	14.8	B	15.3	B	15.1	B
			PM	23.0	C	26.4	C	23.5	C
5. Hammatt Avenue / SR 99 NB Ramps	Signalized	C	AM	15.8	B	28.3	C	19.5	B
			PM	11.8	B	15.6	B	14.3	B
6. Hammatt Avenue / SR 99 SB Ramps	Signalized	C	AM			22.0	C	19.8	B
			PM			23.4	C	25.3	C

DELAY is measured in seconds

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

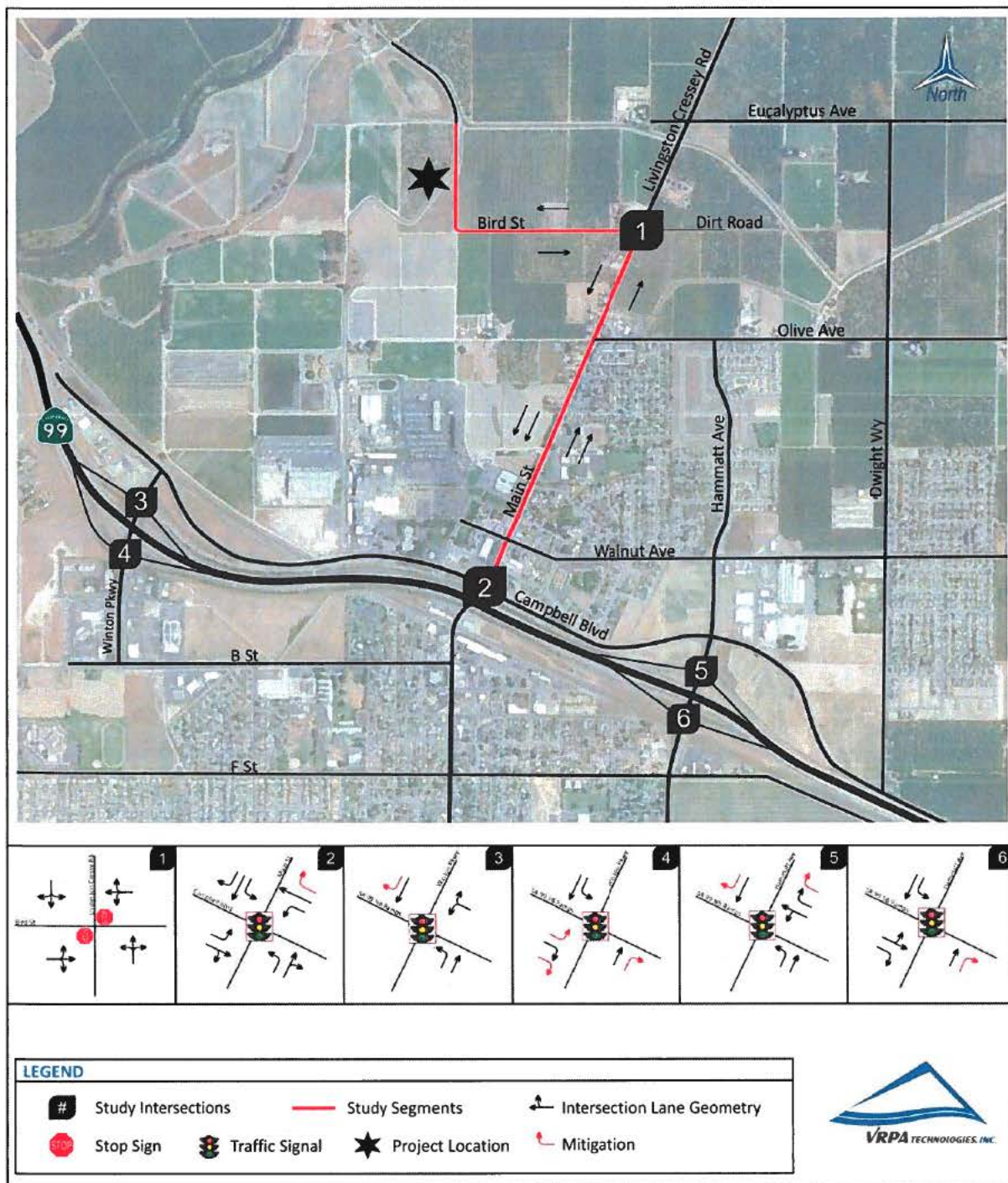
Table 4-2
Left Turn and Right Turn Storage Requirements

INTERSECTION	EXISTING QUEUE STORAGE LENGTH (ft)		CUMULATIVE YEAR 2042 PLUS PROJECT RECOMMENDED QUEUE STORAGE LENGTH (ft)
Main Street / Campbell Boulevard	NB Left	150	150
	SB Left	100	100
	EB Left	200	200
	WB Left	150	150
	WB Right	--	150
	WB Right	75	75
Winton Parkway / SR 99 NB Ramps	NB Left	175	175
	SB Right	--	300
Winton Parkway / SR 99 SB Ramps	NB Right	--	300
	SB Left	200	200
Hammatt Avenue / SR 99 NB Ramps	NB Left	150	150
	SB Right	--	225
Hammatt Avenue / SR 99 SB Ramps	NB Right	--	150
	SB Left	125	125

BOLD denotes change in storage length

Greenzone Industrial Development Cumulative Year 2042 Lane Geometry

Figure
4-1



4.2 Equitable Share Responsibility

The proposed Project will be required to contribute a fair share towards the costs of improvements that are identified for the Cumulative Year 2042 scenarios. The intent of determining the equitable responsibility for the improvements identified above for the Cumulative Year 2042 scenarios, is to provide a starting point for early discussions to address traffic mitigation equitability and to calculate the equitable share for mitigating traffic impacts.

The formula used to calculate the equitable share responsibility to the study area is as follows:

$$\text{Equitable Share} = (\text{Project Trips}) / (\text{Future Year Plus Approved Project Traffic} - \text{Existing Traffic})$$

Table 4-3 shows the equitable share responsibility to the study area. The equitable share responsibility shown in Table 4-3 is the result of LOS enhancements related to capacity.

Table 4-3
Equitable Share Responsibility

INTERSECTION	PEAK HOUR	EXISTING	PROJECT TRIPS	CUMULATIVE YEAR 2042 PLUS PROJECT	FAIR SHARE PERCENTAGE
Main Street / Campbell Boulevard	AM	1,189	22	1,701	4.3%
	PM	946	28	1,396	6.2%
Winton Parkway / SR 99 NB Ramps	AM	1,284	4	1,727	0.9%
	PM	1,243	6	1,675	1.4%
Winton Parkway / SR 99 SB Ramps	AM	1,711	3	2,301	0.5%
	PM	1,727	2	2,323	0.3%
Hammatt Avenue / SR 99 NB Ramps	AM	1,322	6	2,208	0.7%
	PM	1,262	7	2,131	0.8%
Hammatt Avenue / SR 99 SB Ramps	AM	1,160	1	1,873	0.1%
	PM	1,236	5	2,010	0.6%

APPENDIX F
TRIBAL CONSULTATION LETTERS

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstondcity.com



John B. Anderson

Contract City Planner
(209) 394-5510 Ext. 123
landerson@livingstondcity.com

December 20, 2021

Dumna Wo-Wah Tribal Government
Robert Ledger, Chairperson
2191 West Pico Avenue
Fresno, CA 93705

RE: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, and Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2

Dear Mr. Ledger:

The City of Livingston (City) will undertake the following project: Greenzone Cannabis Business Park (Project). Below please find a description of the proposed Project, maps showing the Project vicinity and site boundary, as well as the name of our Project point of contact.

Project Description: The Applicant is proposing to subdivide an 18.8-acre parcel into 22 lots ranging from approximately 0.66 acres to 1.45 acres in size, and dedicated stormwater detention basin (Lot A). The Project would ultimately result in a secured, gated Cannabis Business Park with a future 25-footwide internal road. Although the ultimate intent for the TSM is to construct a Cannabis Business Park, if cannabis-related uses are not forthcoming, then the 22 lots may result in the construction of other non-cannabis industrial uses as permitted in the Zoning Ordinance. The site is bisected by the MID Stoddard Lateral that runs diagonally through the site, which will be piped and undergrounded. The project includes a tentative subdivision map, a conditional use permit, a general plan amendment, and a zoning overlay.

Pursuant to PRC § 65352.3 (a)(2), you have 90 days from the receipt of this letter to request consultation, in writing, with the City.

Should you have any comments or questions please contact our designated representative, John Anderson, Contract City Planner at (209) 394-8041.

Thank you,


John Anderson
Contract City Planner

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstoncity.com

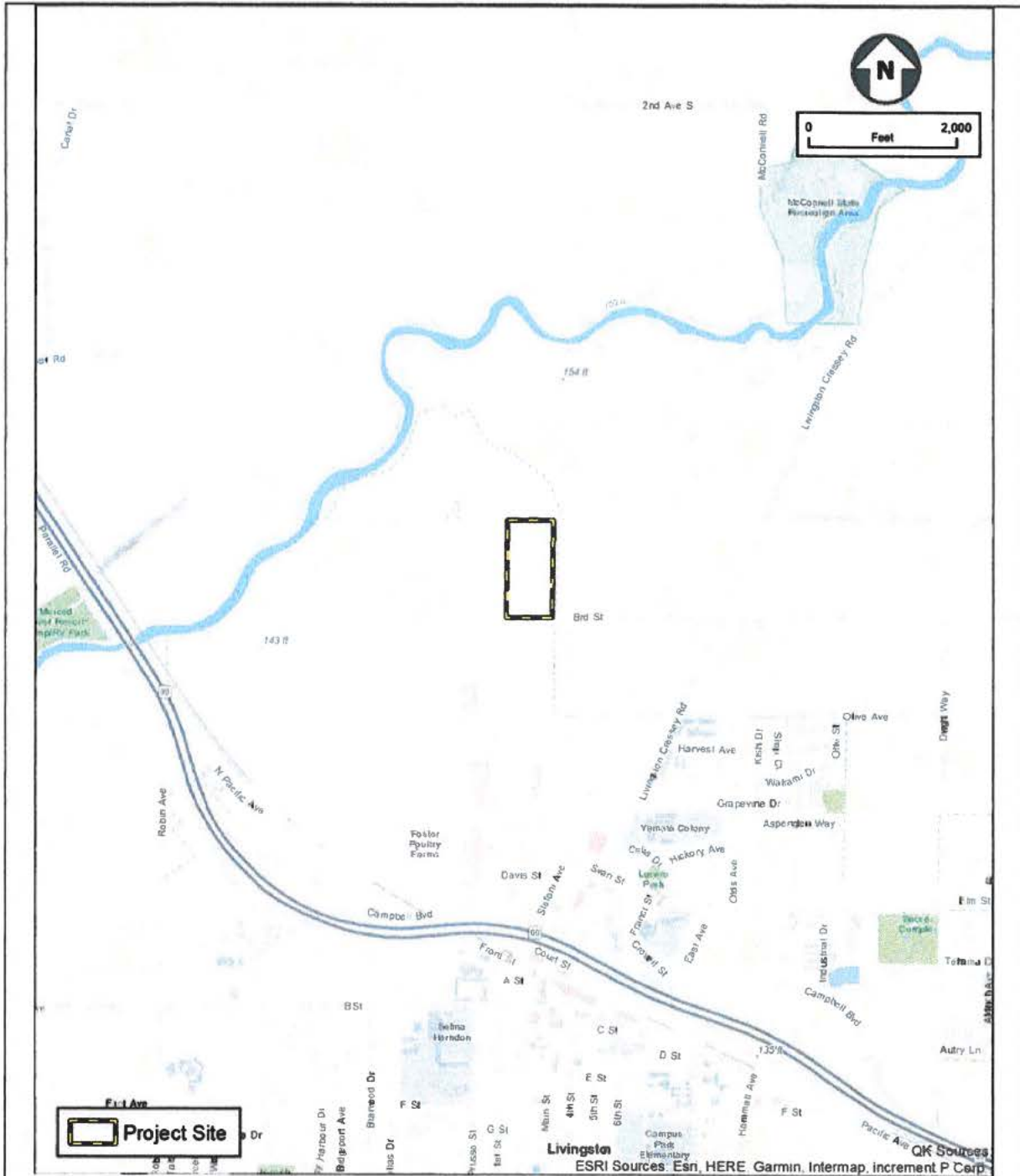


John B. Anderson

Contract City Planner

(209) 394-5510 Ext. 123

banderson@livingstoncity.com



Vicinity Map

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstoncity.com

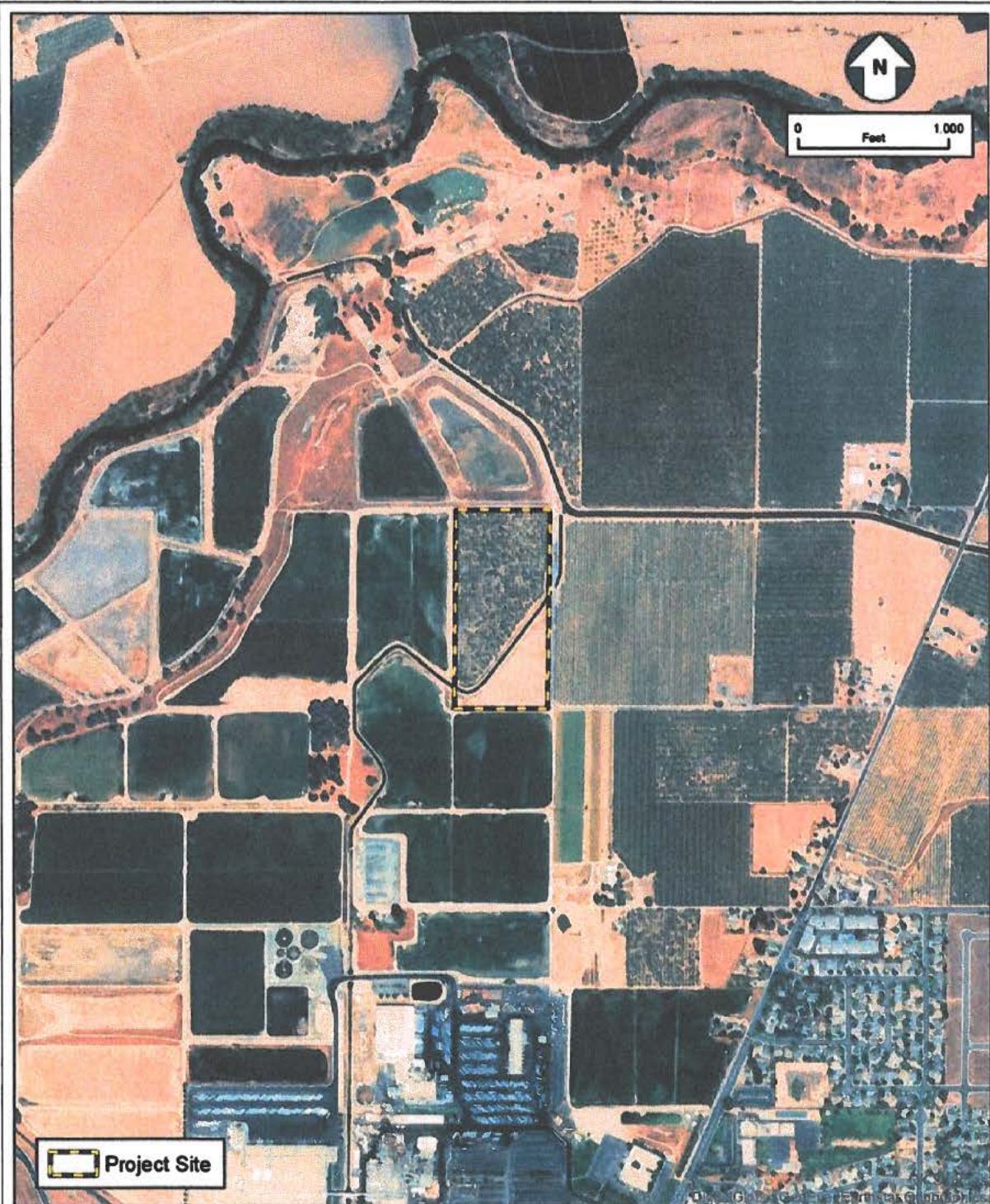


John B. Anderson

Contract City Planner

(209) 394-5510 Ext. 123

landerson@livingstoncity.com



Project Site Map

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstonscity.com



John B. Anderson

Contract City Planner
(209) 394-5510 Ext. 123
banderson@livingstonscity.com

December 20, 2021

Amah Mutsun Tribal Band
Valentin Lopez, Chairperson
P.O. Box 5272
Galt, CA 95632

RE: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, and Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2

Dear Mr. Lopez:

The City of Livingston (City) will undertake the following project: Greenzone Cannabis Business Park (Project). Below please find a description of the proposed Project, maps showing the Project vicinity and site boundary, as well as the name of our Project point of contact.

Project Description: The Applicant is proposing to subdivide an 18.8-acre parcel into 22 lots ranging from approximately 0.66 acres to 1.45 acres in size, and dedicated stormwater detention basin (Lot A). The Project would ultimately result in a secured, gated Cannabis Business Park with a future 25-footwide internal road. Although the ultimate intent for the TSM is to construct a Cannabis Business Park, if cannabis-related uses are not forthcoming, then the 22 lots may result in the construction of other non-cannabis industrial uses as permitted in the Zoning Ordinance. The site is bisected by the MID Stoddard Lateral that runs diagonally through the site, which will be piped and undergrounded. The project includes a tentative subdivision map, a conditional use permit, a general plan amendment, and a zoning overlay.

Pursuant to PRC § 65352.3 (a)(2), you have 90 days from the receipt of this letter to request consultation, in writing, with the City.

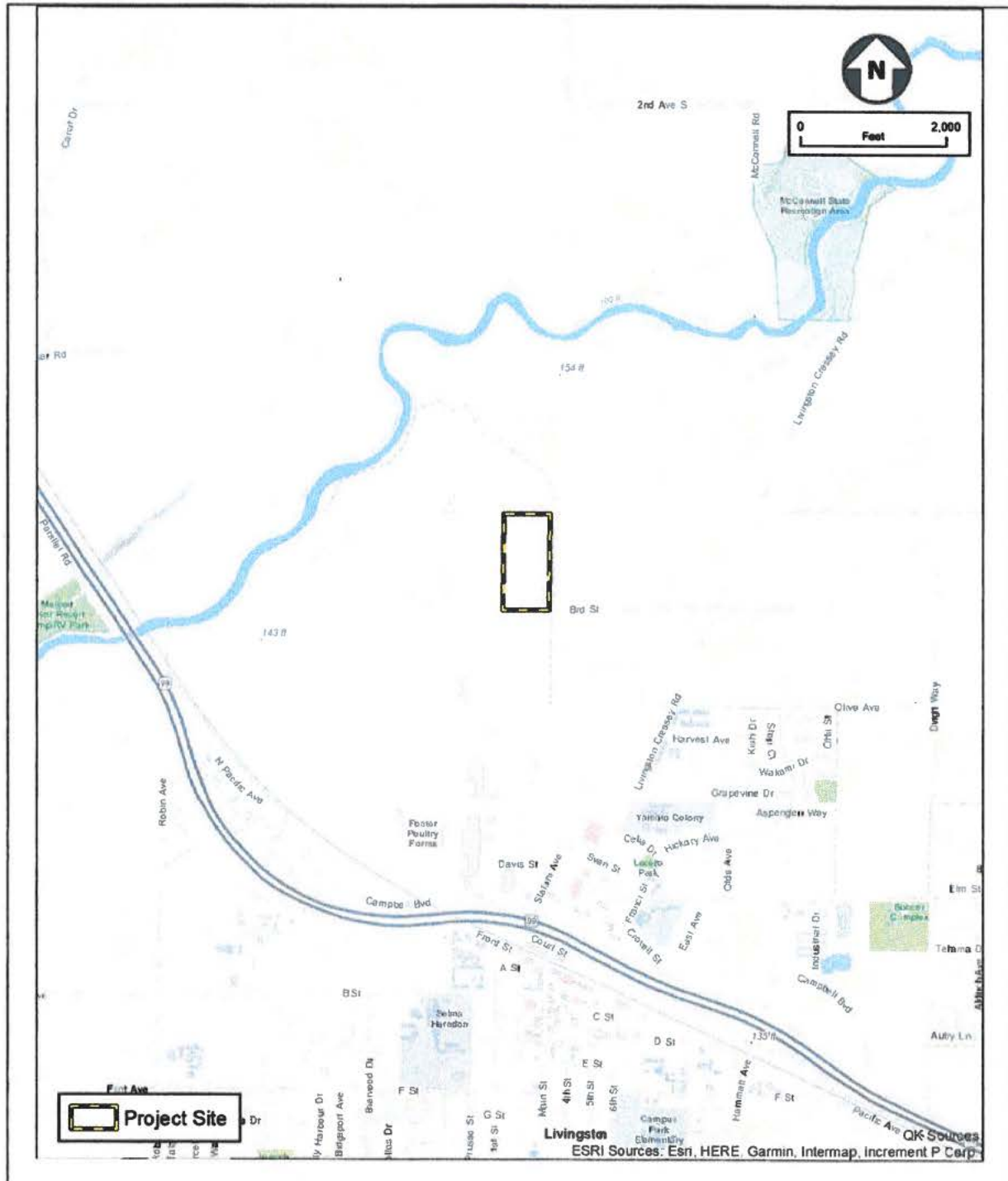
Should you have any comments or questions please contact our designated representative, John Anderson, Contract City Planner at (209) 394-8041.

Thank you,


John Anderson
Contract City Planner

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstoncity.com

landerson@livingstoncity.com



Vicinity Map

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstonsite.com



John B. Anderson

Contract City Planner

(209) 394-5510 Ext. 123

janderson@livingstonsite.com



Project Site Map

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstoncity.com



John B. Anderson

Contract City Planner
(209) 394-5510 Ext. 123
landerson@livingstoncity.com

December 20, 2021

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas, CA 93906

RE: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, and Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2

Dear Mr. Woodrow:

The City of Livingston (City) will undertake the following project: Greenzone Cannabis Business Park (Project). Below please find a description of the proposed Project, maps showing the Project vicinity and site boundary, as well as the name of our Project point of contact.

Project Description: The Applicant is proposing to subdivide an 18.8-acre parcel into 22 lots ranging from approximately 0.66 acres to 1.45 acres in size, and dedicated stormwater detention basin (Lot A). The Project would ultimately result in a secured, gated Cannabis Business Park with a future 25-footwide internal road. Although the ultimate intent for the TSM is to construct a Cannabis Business Park, if cannabis-related uses are not forthcoming, then the 22 lots may result in the construction of other non-cannabis industrial uses as permitted in the Zoning Ordinance. The site is bisected by the MID Stoddard Lateral that runs diagonally through the site, which will be piped and undergrounded. The project includes a tentative subdivision map, a conditional use permit, a general plan amendment, and a zoning overlay.

Pursuant to PRC § 65352.3 (a)(2), you have 90 days from the receipt of this letter to request consultation, in writing, with the City.

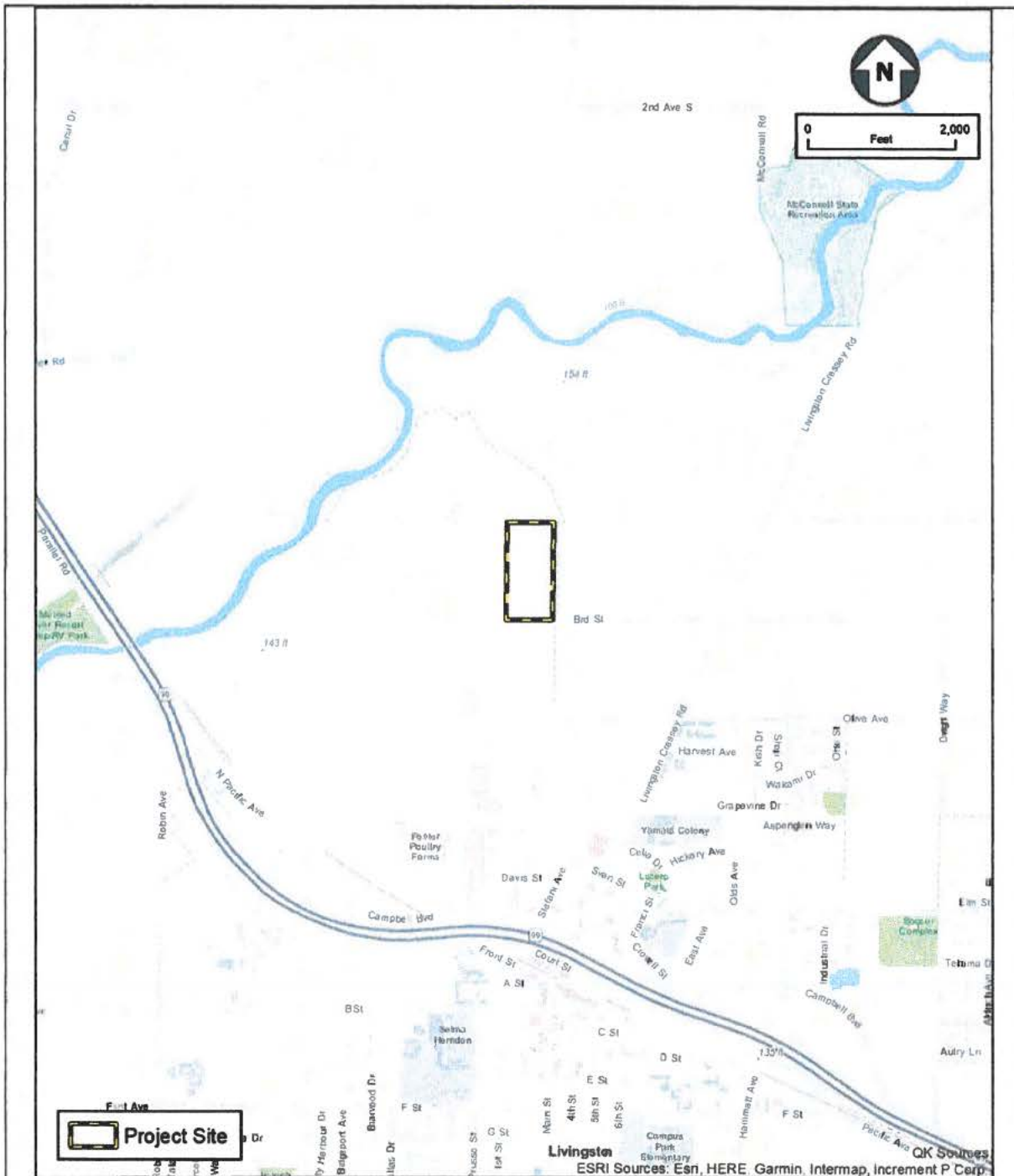
Should you have any comments or questions please contact our designated representative, John Anderson, Contract City Planner at (209) 394-8041.

Thank you,


John Anderson
Contract City Planner

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstonscity.com

janderson@livingstoncity.com



Vicinity Map

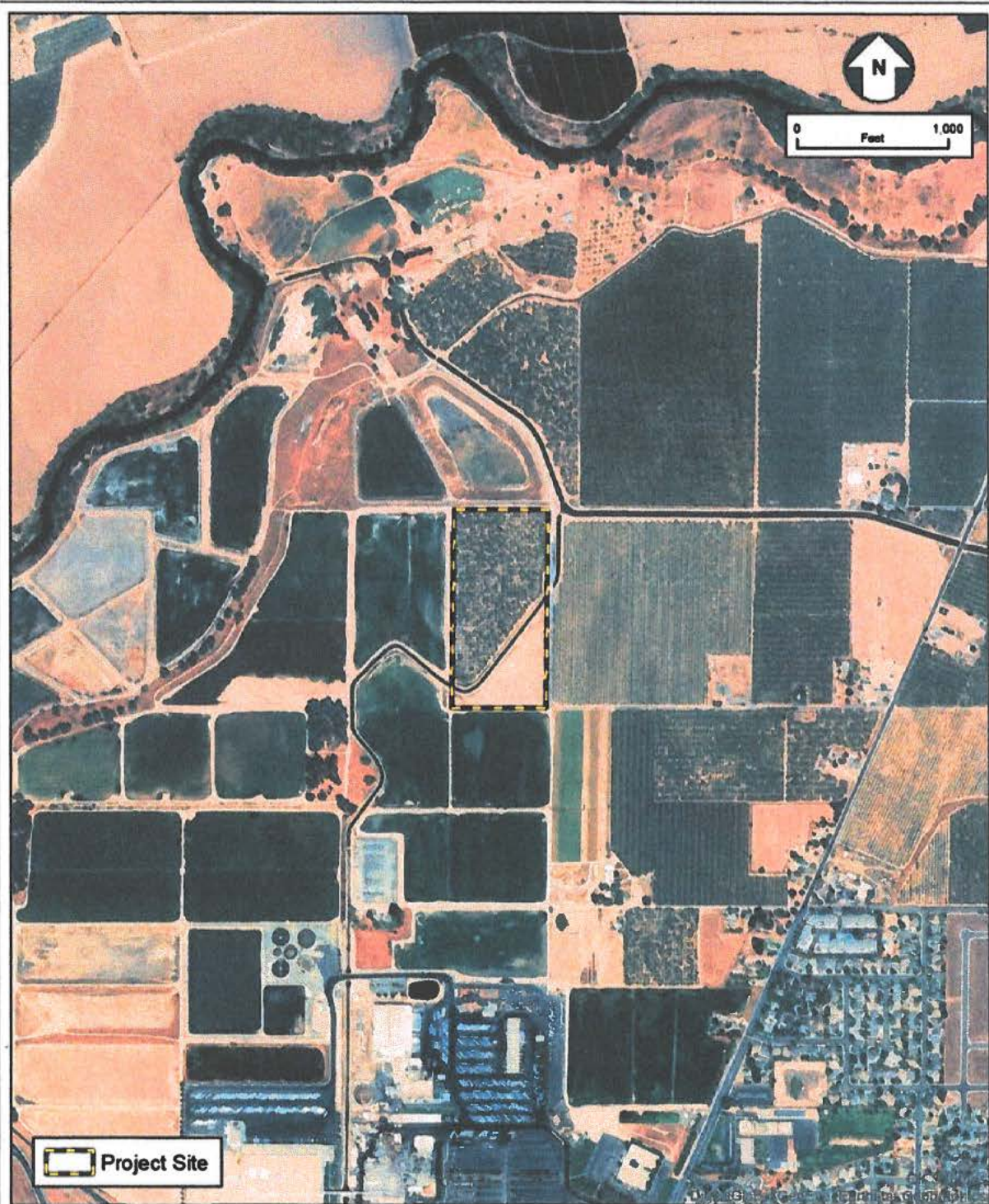
City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstoncity.com



John B. Anderson

Contract City Planner
(209) 394-5510 Ext. 123
janderson@livingstoncity.com



Project Site Map

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstondty.com



John B. Anderson

Contract City Planner
(209) 394-5510 Ext. 123
banderson@livingstondty.com

December 20, 2021

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589
Porterville, CA 93258

RE: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, and Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2

Dear Mr. Peyron:

The City of Livingston (City) will undertake the following project: Greenzone Cannabis Business Park (Project). Below please find a description of the proposed Project, maps showing the Project vicinity and site boundary, as well as the name of our Project point of contact.

Project Description: The Applicant is proposing to subdivide an 18.8-acre parcel into 22 lots ranging from approximately 0.66 acres to 1.45 acres in size, and dedicated stormwater detention basin (Lot A). The Project would ultimately result in a secured, gated Cannabis Business Park with a future 25-footwide internal road. Although the ultimate intent for the TSM is to construct a Cannabis Business Park, if cannabis-related uses are not forthcoming, then the 22 lots may result in the construction of other non-cannabis industrial uses as permitted in the Zoning Ordinance. The site is bisected by the MID Stoddard Lateral that runs diagonally through the site, which will be piped and undergrounded. The project includes a tentative subdivision map, a conditional use permit, a general plan amendment, and a zoning overlay.

Pursuant to PRC § 65352.3 (a)(2), you have 90 days from the receipt of this letter to request consultation, in writing, with the City.

Should you have any comments or questions please contact our designated representative, John Anderson, Contract City Planner at (209) 394-8041.

Thank you,


John Anderson
Contract City Planner

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstonscity.com

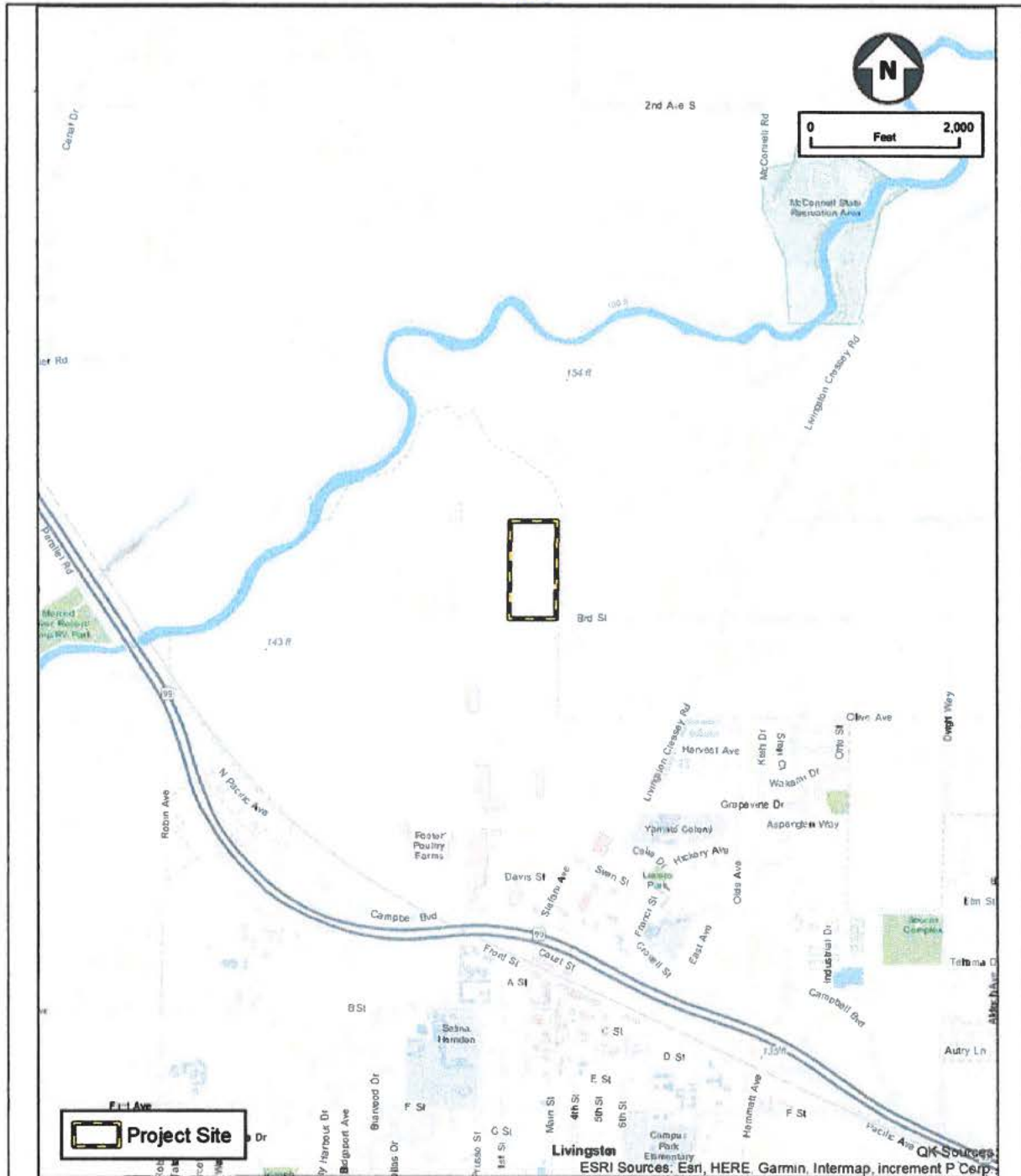


John B. Anderson

Contract City Planner

(209) 394-5510 Ext. 123

banderson@livingstonscity.com



Vicinity Map

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstoncity.com

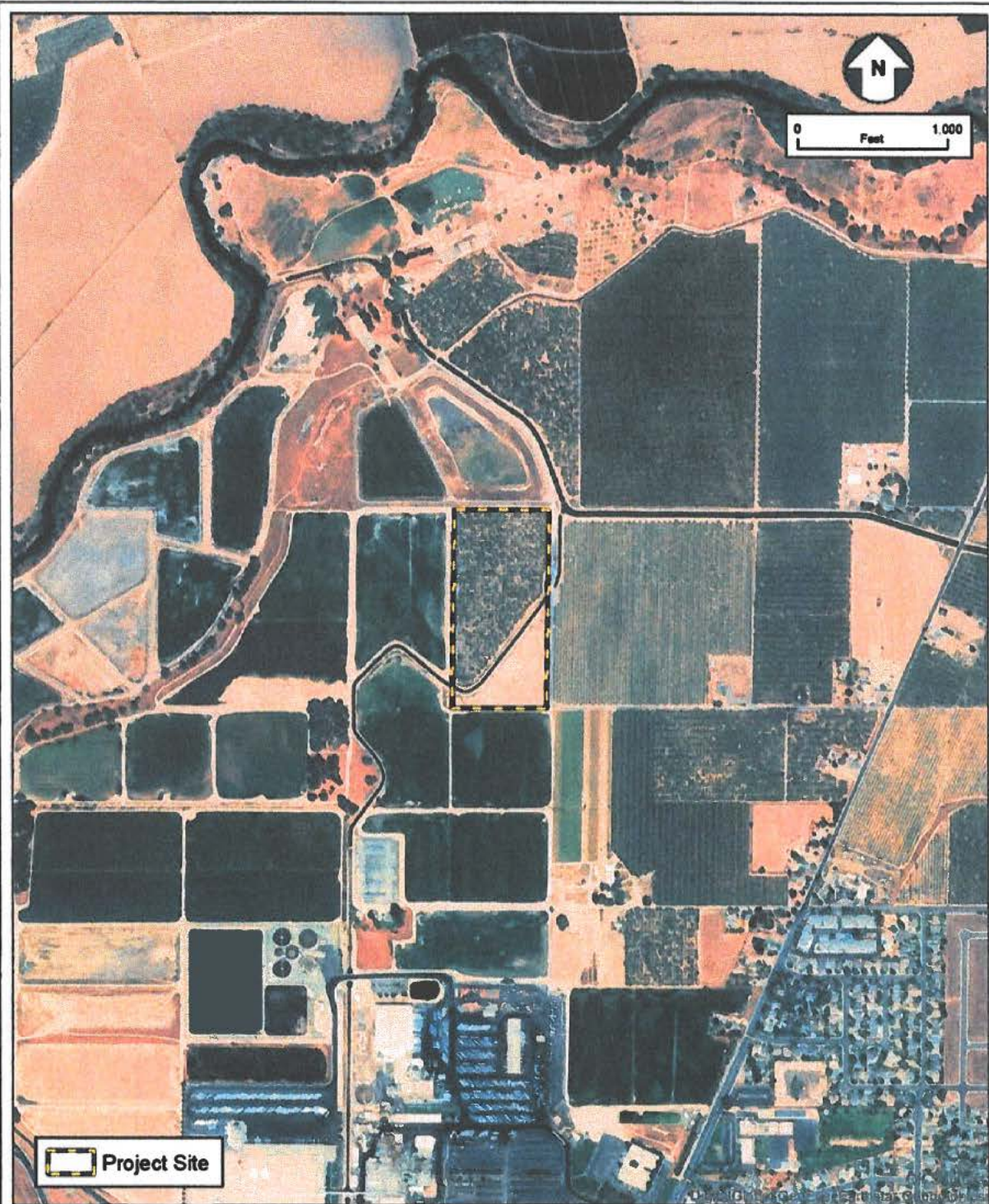


John B. Anderson

Contract City Planner

(209) 394-5510 Ext. 123

banderson@livingstoncity.com



Project Site Map

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstondcity.com



John B. Anderson

Contract City Planner
(209) 394-5510 Ext. 123
banderson@livingstondcity.com

December 20, 2021

Southern Sierra Miwuk Nation
Sandra Chapman, Chairperson
P.O. Box 186
Mariposa, CA 95338

RE: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, and Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2

Dear Ms. Chapman:

The City of Livingston (City) will undertake the following project: Greenzone Cannabis Business Park (Project). Below please find a description of the proposed Project, maps showing the Project vicinity and site boundary, as well as the name of our Project point of contact.

Project Description: The Applicant is proposing to subdivide an 18.8-acre parcel into 22 lots ranging from approximately 0.66 acres to 1.45 acres in size, and dedicated stormwater detention basin (Lot A). The Project would ultimately result in a secured, gated Cannabis Business Park with a future 25-footwide internal road. Although the ultimate intent for the TSM is to construct a Cannabis Business Park, if cannabis-related uses are not forthcoming, then the 22 lots may result in the construction of other non-cannabis industrial uses as permitted in the Zoning Ordinance. The site is bisected by the MID Stoddard Lateral that runs diagonally through the site, which will be piped and undergrounded. The project includes a tentative subdivision map, a conditional use permit, a general plan amendment, and a zoning overlay.

Pursuant to PRC § 65352.3 (a)(2), you have 90 days from the receipt of this letter to request consultation, in writing, with the City.

Should you have any comments or questions please contact our designated representative, John Anderson, Contract City Planner at (209) 394-8041.

Thank you,


John Anderson
Contract City Planner

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstoncity.com

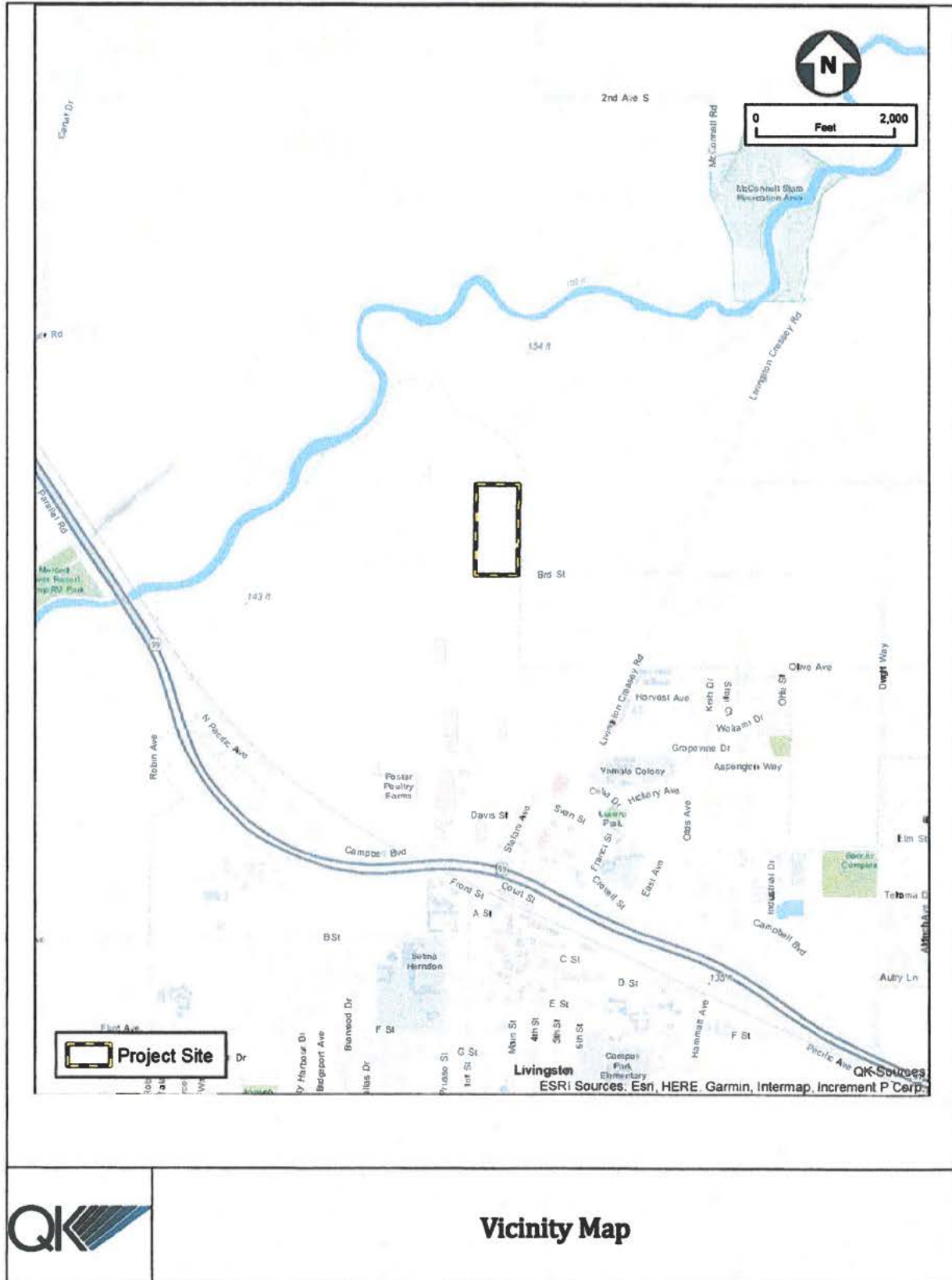


John B. Anderson

Contract City Planner

(209) 394-5510 Ext. 123

janderson@livingstoncity.com



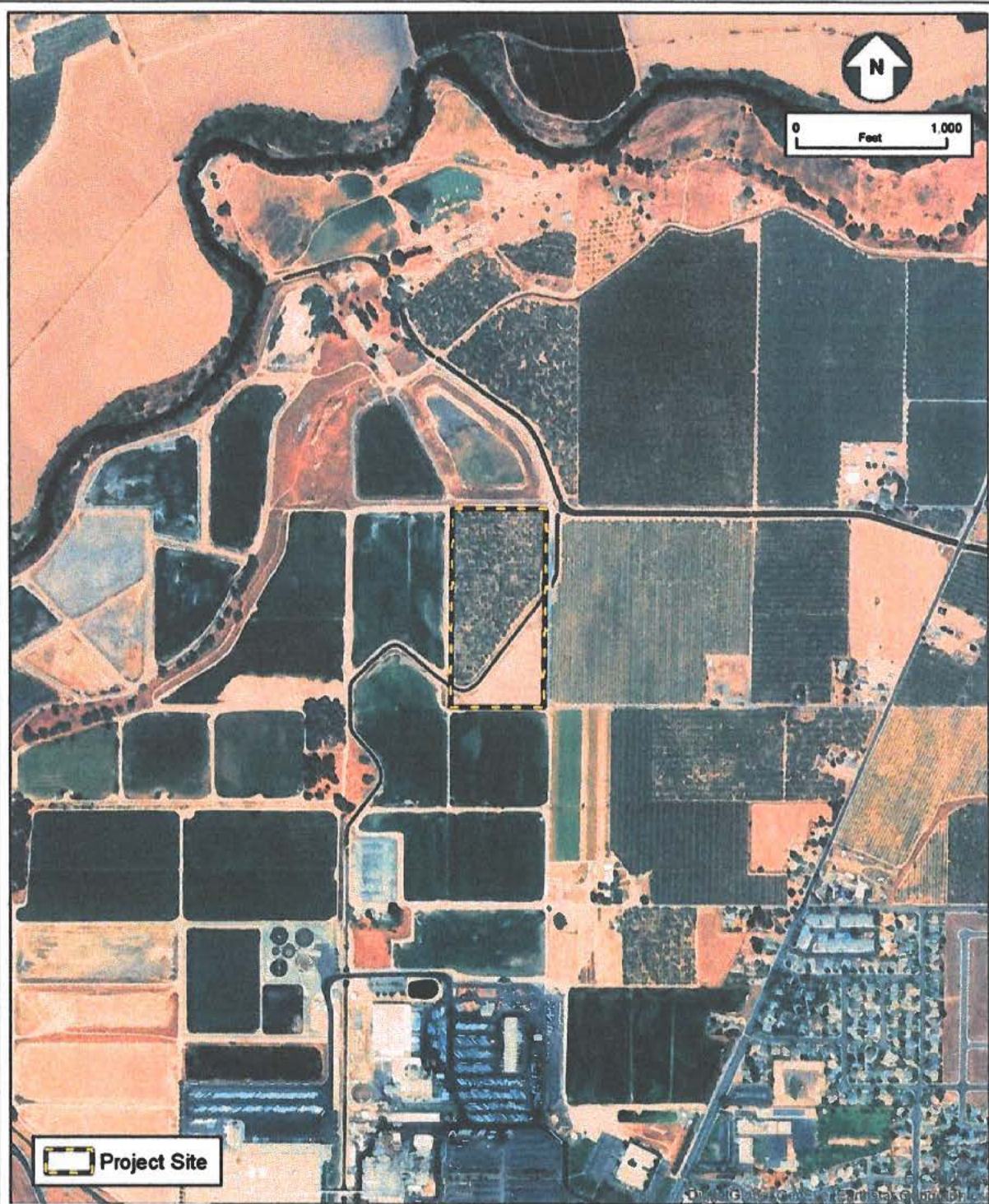
City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstonscity.com



John B. Anderson

Contract City Planner
(209) 394-5510 Ext. 123
banderson@livingstonscity.com



Project Site Map

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstondcity.com



John B. Anderson

Contract City Planner
(209) 394-5510 Ext. 123
banderson@livingstondcity.com

December 20, 2021

North Valley Yokuts Tribe
Katherine Perez, Chairperson
P.O. Box 717
Linden, CA 95236

RE: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, and Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2

Dear Ms. Perez:

The City of Livingston (City) will undertake the following project: Greenzone Cannabis Business Park (Project). Below please find a description of the proposed Project, maps showing the Project vicinity and site boundary, as well as the name of our Project point of contact.

Project Description: The Applicant is proposing to subdivide an 18.8-acre parcel into 22 lots ranging from approximately 0.66 acres to 1.45 acres in size, and dedicated stormwater detention basin (Lot A). The Project would ultimately result in a secured, gated Cannabis Business Park with a future 25-footwide internal road. Although the ultimate intent for the TSM is to construct a Cannabis Business Park, if cannabis-related uses are not forthcoming, then the 22 lots may result in the construction of other non-cannabis industrial uses as permitted in the Zoning Ordinance. The site is bisected by the MID Stoddard Lateral that runs diagonally through the site, which will be piped and undergrounded. The project includes a tentative subdivision map, a conditional use permit, a general plan amendment, and a zoning overlay.

Pursuant to PRC § 65352.3 (a)(2), you have 90 days from the receipt of this letter to request consultation, in writing, with the City.

Should you have any comments or questions please contact our designated representative, John Anderson, Contract City Planner at (209) 394-8041.

Thank you,


John Anderson
Contract City Planner

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstondcity.com

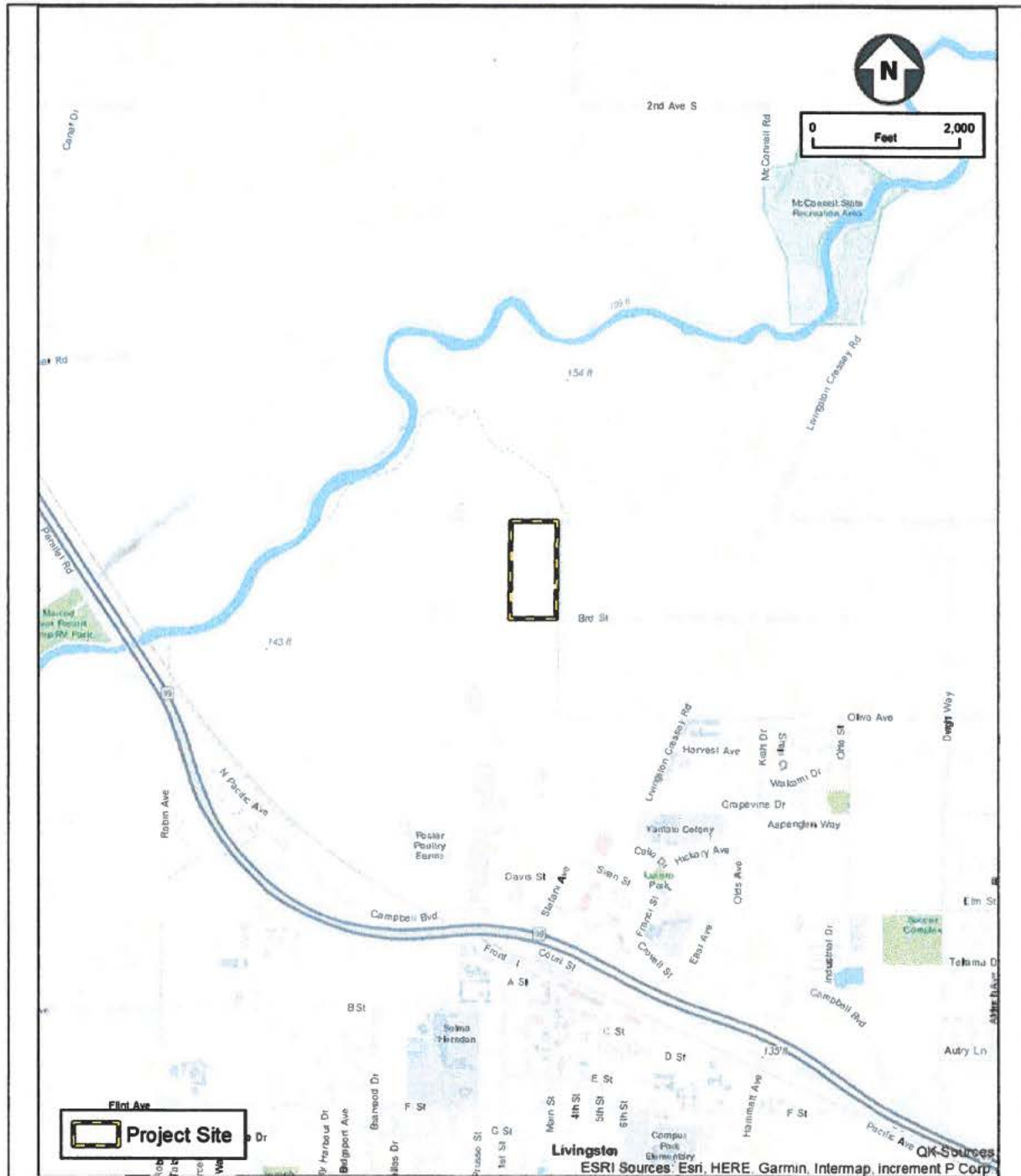


John B. Anderson

Contract City Planner

(209) 394-5510 Ext. 123

banderson@livingstondcity.com



Vicinity Map

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstonscity.com



John B. Anderson

Contract City Planner
(209) 394-5510 Ext. 123
banderson@livingstonscity.com



Project Site Map

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstonscity.com



John B. Anderson

Contract City Planner
(209) 394-5510 Ext. 123
banderson@livingstonscity.com

December 20, 2021

North Valley Yokuts Tribe
Timothy Perez
P.O. Box 717
Linden, CA 95236

RE: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, and Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2

Dear Mr. Perez:

The City of Livingston (City) will undertake the following project: Greenzone Cannabis Business Park (Project). Below please find a description of the proposed Project, maps showing the Project vicinity and site boundary, as well as the name of our Project point of contact.

Project Description: The Applicant is proposing to subdivide an 18.8-acre parcel into 22 lots ranging from approximately 0.66 acres to 1.45 acres in size, and dedicated stormwater detention basin (Lot A). The Project would ultimately result in a secured, gated Cannabis Business Park with a future 25-footwide internal road. Although the ultimate intent for the TSM is to construct a Cannabis Business Park, if cannabis-related uses are not forthcoming, then the 22 lots may result in the construction of other non-cannabis industrial uses as permitted in the Zoning Ordinance. The site is bisected by the MID Stoddard Lateral that runs diagonally through the site, which will be piped and undergrounded. The project includes a tentative subdivision map, a conditional use permit, a general plan amendment, and a zoning overlay.

Pursuant to PRC § 65352.3 (a)(2), you have 90 days from the receipt of this letter to request consultation, in writing, with the City.

Should you have any comments or questions please contact our designated representative, John Anderson, Contract City Planner at (209) 394-8041.

Thank you,


John Anderson
Contract City Planner

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstoncity.com

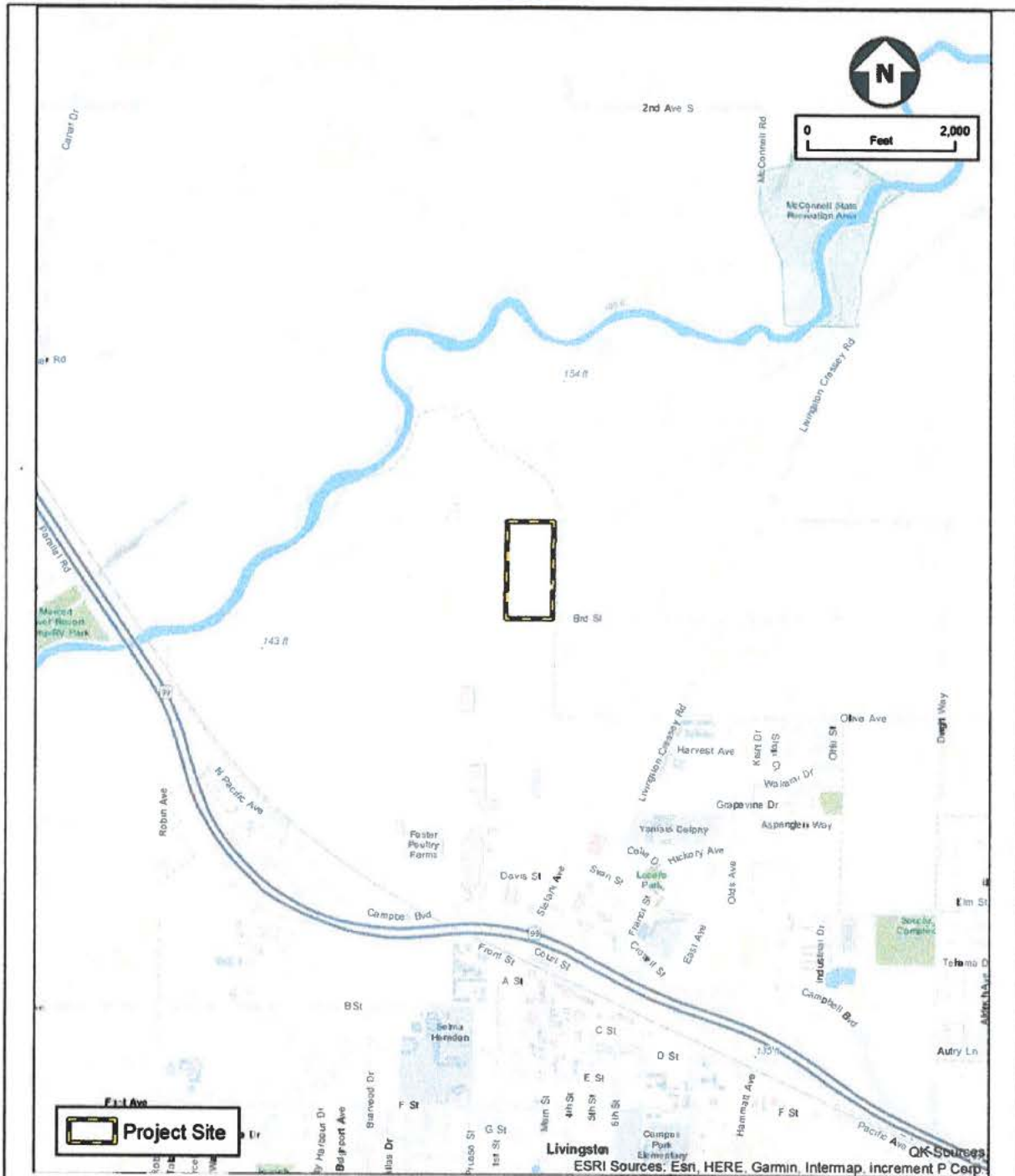


John B. Anderson

Contract City Planner

(209) 394-5510 Ext. 123

banderson@livingstoncity.com



Vicinity Map

City of Livingston

1516 C Street
Livingston, CA 95334
Phone: (209) 394-8041 Fax: (209) 394-4190
www.livingstoncity.com



John B. Anderson

Contract City Planner
(209) 394-5510 Ext. 123
banderson@livingstoncity.com



Project Site Map