PLANNING COMMISSION

LIVINGSTON PLANNING COMMISSION
MEETING AGENDA
TUESDAY, August 9, 2022 7:00 P.M.
CITY COUNCIL CHAMBERS, 1416 "C" STREET, LIVINGSTON

The Planning Commission welcomes you to its meetings, which are regularly scheduled the second Tuesday of each month, and your interest is encouraged and appreciated.

Members of the public are advised that all pagers, cellular telephones and any other communication devices be put on vibrate mode or turned off during the Planning Commission meeting.

NOTICE: IN ORDER TO MINIMIZE THE SPREAD OF THE COVID-19 VIRUS, THIS MEETING WILL BE CONDUCTED PURSUANT TO GOVERNMENT CODE SECTION 52953(e), AND WHICH SUSPENDED CERTAIN REQUIREMENTS OF THE BROWN ACT.

WE ENCOURAGE ALL MEMBERS OF THE PUBLIC TO PARTICIPATE IN THE MEETING VIA TELECONFERENCE BY CALLING (520) 525-8911. ANY MEMBER OF THE PUBLIC PARTICIPATING VIA TELECONFERENCE WILL BE GIVEN THE OPPORTUNITY TO PROVIDE PUBLIC COMMENT.

PERSONS WHO ATTEND THE MEETING ARE ASKED TO FOLLOW THE CURRENT STATE OF CALIFORNIA PUBLIC HEALTH GUIDANCE

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Community Development Department at (209) 394-8041, Ext. 112. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to assure accessibility to this meeting.

Members of the public who have questions regarding any agenda item may comment on that item before and during consideration of that item when called upon by the Planning Commission Chair.

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1. **ROLL CALL:** Robert S. Wallis, Steve Bassi, Adanan Bath, Jason Roth, Renee W. Mendonca, Harpreet Bains, (Alternate 1 - votes on odd months), Andres Fuentes (Alternate 2 - votes on even months)

2. **PLEDGE OF ALLEGIANCE**

3. **PUBLIC COMMENT**

   Members of the Audience – At this time, any person may comment on any item that is NOT on the Agenda. PLEASE STATE YOUR NAME AND ADDRESS FOR THE RECORD. While the Planning Commission encourages participation from the audience, no more than five (5) minutes are allowed per discussion item. Topics not considered urgency matters may be referred to City Staff and/or placed on the next agenda for consideration and/or action by the Planning Commission.

4. **MINUTES**

   A. May 10, 2022
   B. July 12, 2022

5. **CORRESPONDENCE**

6. **CONFLICT OF INTEREST DECLARATION**

7. **PUBLIC HEARINGS**

   Consent items

   A. Site Plan and Design Review Application No. 2022-01 – Duplex at 846 6th Street. A request to construct a residential duplex on vacant property zoned R-2, Medium Density Residential.

   Non-consent Items

   B. Site Plan and Design Review Application No. 2020-02 and Conditional Use Permit Application No. 2020-02 – SGM Moonglo, Inc. Truck Stop Complex – Moonglo. A request to develop a truck stop travel center on an 18.9-acre property zoned C-3, Highway Service Commercial District and PF, Public or Quasi-public Facilities District.

   C. Consideration of Proposed Amendments to the City of Livingston Planning Commission Policies and Procedures

8. **OTHER MATTERS (Not Public Hearings)**

   (None)

9. **REPORT OF THE PLANNING DIRECTOR**

10. **ADDITIONAL MATTERS AT DISCRETION OF THE CHAIR**

11. **ADJOURNMENT**

All actions of the Livingston Planning Commission (excluding recommendations) are appealable to the Livingston City Council if filed within ten days of the Planning Commission Meeting at which the decision is made by filing an appeal in writing and paying the appropriate fee with the Livingston City Clerk.

CITY OF LIVINGSTON
LIVINGSTON PLANNING COMMISSION
REGULAR MEETING

City Council Chambers
1416 "C" Street
Livingston, CA 95334

MEETING MINUTES
May 10, 2022

CALL TO ORDER

The meeting was called to order at 7:00 p.m. by Chair Robert Wallis.

ROLL CALL

Commissioners Present:	Chair Robert (Bob) Wallis, Commissioner Steve Bassi, Commissioner Jason Roth, Commissioner Renee Mendonca, Alternate Commissioner Andres Fuentes and Alternate Commissioner Harpreet Bains
Commissioners Absent:	Commissioner Adanan Bath (Excused)
Staff Present:	City Planner Miguel Galvez and Sr. Administrative Analyst Martha Abeloe
Others Present:	David Niskanen, Contract Associate Planner from J.B. Anderson Land Use Planning, Joshua Jordan, Contract Assistant Planner from J.B. Anderson Land Use Planning, City Council Member Jose Moran and resident Diego Castillo

PLEDGE OF ALLEGIANCE

The pledge of allegiance to the flag was recited.

PUBLIC COMMENT

Chair Wallis opened the public comment period at 7:02 p.m. There were no comments from the public. Chair Wallis closed the public comment period at 7:03 p.m.

MINUTES

A. Action Meeting Minutes from March 08, 2022, Regular Planning Commission Meeting

Motion by Chair Bob Wallis, seconded by Vice Chair Steve Bassi, to approve minutes from March 08, 2022. Motion approved by consensus.

CORRESPONDENCE

(None)

CONFLICT OF INTEREST DECLARATION

(None)

PUBLIC HEARING

Consent Items

(None)

Non-consent Items

A. Zoning Ordinance Text Amendment 2022-01 – Accessory Dwelling Units Ordinance. An Ordinance to update the Livingston Municipal Code (LMC) to be consistent with California Government Code Sections 65852.2 and 65852.22 related to Accessory Dwelling Units.

Contract Assistant Planner, Joshua Jordan presented a PowerPoint presentation on this item.

The Public Hearing was opened for public comment at 7:19 p.m.

There were no comments from the public.

Chair Wallis closed Public Hearing Comment period at 7:19 p.m.

Motion by Commissioner Steve Bassi, seconded by Commissioner Renee Mendonca, to approve Planning Commission Resolution 2022-02, recommending to the City Council approval of Zoning Ordinance Text Amendment 2022-01 – Accessory Dwelling Units Ordinance. An Ordinance to update the Livingston Municipal Code (LMC) to be consistent with California Government Code Sections 65852.2 and 65852.22 related to Accessory Dwelling Units. Approving Motion carried 5-0, by the following roll call vote:

AYES:	Vice-Chair Bassi, Chair Wallis, Commissioner Roth, Commissioner Mendonca, and Alternate Commissioner Bains
NOES:	None
ABSENT:	Planning Commissioner Bath
ABSTAIN:	None

OTHER MATTERS (Not Public Hearings)

A. City of Livingston 2021 Housing Element Annual Progress Report

Contract Associate Planner, David Niskanen presented a PowerPoint presentation on this item.

The Public Hearing was opened for public comment at 7:24 p.m.

There were no public comments.

Chair Wallis closed Public Hearing Comment at 7:25 p.m.

Motion by Vice Chair Steve Bassi, seconded by Chair Bob Wallis, to approve Resolution 2022-03, recommending to the City Council receive and accept the Housing Element Annual Progress Report for Calendar Year 2021 and Authorize Staff to submit the Report to the California Department of Housing and Community Development and the Governor's Office Planning and Research. Approving Motion carried 5-0, by the following roll call vote:

AYES:	Vice-Chair Bassi, Chair Wallis, Commissioner Roth, Commissioner Mendonca, and Alternate Commissioner Bains
NOES:	None
ABSENT:	Planning Commissioners Bath
ABSTAIN:	None

REPORT OF THE PLANNING DIRECTOR

City Planner Miguel Galvez highlighted recent City Council actions and reviewed the City of Livingston Planning and Development Projects.

ADDITIONAL MATTERS AT DISCRETION OF THE CHAIR

Planning Commission

Vice Chair Bassi asked about the Tierra Santa Villas project not receiving federal funding, he asked what it meant for the project.

City Planner Galvez mentioned the development of the project would be postponed until sufficient funding is secured. Applicant Carol Ornelas has been contacted regarding another funding option that could be available.

Planning Commissioner Roth asked whether the pink building on Main Street had been purchased. City Planner Galvez responded that the property had been sold.

Alternate Commissioner Fuentes asked if there are any other workshops that can be attended by Commissioners.

City Planner Galvez offered in-house training opportunities to the Commissioners. He also inquired whether the Commissioners were interested in participating in a General Plan 101 training session with the City Council. The Commissioners responded that they were interested.

Chair Wallis mentioned the Parks and Recreation Department needs volunteers for the Color Run and if anyone is interested to reach out to Jacquie Benoit or Toni Marquez.

Commissioner Mendonca and Commissioner Fuentes gave a brief overview of their experience at the Planning Commissioners Academy Conference.

Chair Wallis asked the City Planner about Video Streaming the Planning Commission Meetings. City Planner Galvez responded that funding for Video Streaming of Planning Commission meetings had been requested to be budgeted into the next fiscal year, but funding is at the discretion of City Council and City Manager.

ADJOURNMENT

The regular meeting was adjourned by consensus at 7:44 p.m.

APPROVED: August 9, 2022

Chair, ROBERT WALLIS

Secretary of the Planning Commission,
Miguel Galvez

The written meeting minutes reflect a summary of specific actions taken by the Planning Commission. They do not necessarily reflect all of the comments or dialogue leading up to the action. All meetings are digitally recorded and are an official record of the meeting's proceedings. Digitally recorded verbatim minutes are available upon request and may be obtained at Livingston City Hall.

CITY OF LIVINGSTON
LIVINGSTON PLANNING COMMISSION
REGULAR MEETING

City Council Chambers
1416 "C" Street
Livingston, CA 95334

MEETING MINUTES
July 12, 2022

CALL TO ORDER

The meeting was called to order at 7:00 p.m. by Chair Robert Wallis.

ROLL CALL

Commissioners Present:	Chair Robert (Bob) Wallis, Vice-Chair Steve Bassi, Commissioner Jason Roth, Commissioner Renee Mendonca, Commissioner Adanan Bath, Alternate Commissioner Andres Fuentes, and Alternate Commissioner Harpreet Bains
Commissioners Absent:	None
Staff Present:	City Planner Miguel Galvez and Sr. Administrative Analyst Martha Abeloe
Others Present:	Applicant Diego Castillo and Council Member Liason Maria Soto

PLEDGE OF ALLEGIANCE

The pledge of allegiance to the flag was recited.

PUBLIC COMMENT

Chair Wallis opened the public comment period at 7:02 p.m. There were no comments from the public. Chair Wallis closed the public comment period at 7:03 p.m.

MINUTES

A. Action Meeting Minutes from May 10, 2022, Regular Planning Commission Meeting

The Action Meeting Minutes from May 10, 2022 was not approved by the Planning Commissioners.

Commissioner Adanan Bath mentioned that his absences should be excused. Chair Wallis suggested that Staff would research and get back to Commissioner Adanan Bath regarding his absences off the record.

Vice-Chair Bassi commented that he was not the one that asked the question on the status of the pink building and that it was Commissioner Jason Roth therefore the Minutes needed to be corrected.

City Planner Miguel Galvez, suggested bringing back the revised action Minutes of May 10th, 2022 to the next Planning Commission Meeting on August 9th, 2022.

CORRESPONDENCE

City Planner mentioned that Applicant Diego Castillo emailed Staff regarding an updated Site Plan that was submitted to the Building Department on June 8th, 2022, and was not included in the July 12th, 2022 agenda.

City Planner Miguel Galvez included the updated version of the Site Plan that includes a proposed trash enclosure and a new circulation to the parking area on the PowerPoint and provided copies to each Commissioner as well as extra copies for the public to review.

CONFLICT OF INTEREST DECLARATION

(None)

PUBLIC HEARING

Consent Items

(None)

Non-consent Items

(None)

OTHER MATTERS (Not Public Hearings)

A. Appeal Application No. 2022-01 – 1438 D St. Tenant Improvements. A request to appeal a Staff Determination requiring a Site Plan and Design Review Application for Proposed Tenant Improvements and Alterations to the Exterior of a Commercial building at 1438 D Street.

City Planner Miguel Galvez presented a PowerPoint presentation on this item.

The Public Hearing was opened for public comment at 7:27 p.m.

Commissioner Renee Mendonca asked questions about the ADA and parking requirements.

City Planner Miguel Galvez responded to Commissioner Mendonca's questions.

Commissioner Renee Mendonca asked if the owner is aware of the potential ADA requirements for the building.

City Planner mentioned Attachment 3-Site Plan and discussed that there was an updated Site Plan that was submitted last month and there are two extra spaces in the updated site plan.

Applicant Diego Castillo placed on the wall the enlarged proposed updated site plans for the audience and Planning Commissioners to see. He explained that they are not adding new parking they are just restriping with the exception of the ADA parking stalls. He mentioned that the required sizes and parking requirements are met and exceeded. He is not doing any addition or enlargement to the existing building and the square footage is staying the same. The Patio is the only thing that is new and its use is for taking breaks and taking lunches.

He explained that he owns another business in town and he built an enclosed patio and knows of other businesses that built patios as well and a site plan and design review was not required. He mentioned that when an applicant applies for a building permit they still have to be in compliant and all ADA and other requirements by current code have to be met. As far as the use of the building it will be for development, re-development, property management, and real estate office with a three-team staff.

Chair Bob Wallis asked which are the two restaurants that have a patio and did not go through a site plan design review.

Applicant Castillo mentioned his restaurant and another on the other side of town.

Vice-Chair Steve Bassi asked the City Planner if the Patio enclosure is not included would he still need an SPDR.

Applicant Diego Castillo said he is asking for a tentative improvement and he gave his opinion of what is a significant improvement and what is not.

City Planner Galvez responded to Commissioner Bassi's question and discussed that the overall appearance of the building will change. An SPDR will allow the neighbors to voice their opinion.

Steve Bassi asked the applicant in regards to the corner of the building if it will be taken out.

Applicant Castillo, will add a window to the side and will be including a steel column per engineer requirements. All he is adding is a parapet wall and three windows. He is having a hard time with the timing to complete the application process. He stated that a tentative improvement should not take so long.

Chair Bob Wallis asked Planner Galvez what can happen if they make an exception on this project.

City Planner Galvez answered that the Planning Commission will set precedence for future applicants. The building will look different and staff is determining that it is significant and is asking the Planning Commission for direction.

Bassi in his opinion does not think the building looks different he believes it looks modernized. He said it is up to interpretation and what is considered significant.

Chair Wallis asked what the color of the building will be and if the roof is changing.

Applicant Castillo answered that the roof will remain the same and the color will be dark charcoal gray.

Commissioner Roth agrees that the downtown needs a facelift.

Alternate Happy Bains asked if this project can be made a priority if he is required to submit an SPDR.

City Planner Galvez answered that the Planning Department will streamline this project as best as the department can.

Chair Wallis asked if the Planning Commission can have special meeting for this SPDR.

Applicant Castillo feels it shouldn't take that long and this project should not have to go through an SPDR and should be a tentative improvement.

Chair Wallis asked if any neighboring residence or businesses had any questions or feedback.

City Planner Galvez said that with this building permit it is not a requirement for a building permit to notify neighboring residents nor neighboring businesses.

Chair Wallis asked if Planning Commissioners were to approve the appeal can staff go back and adjust the municipal book to add percentages for further developments.

Vice-Chair Bassi asked if we have looked for change.

City Planner Galvez discussed that there is an internal discussion for changes that will help refine the criteria in the Zoning Code Text Amendment to provide better guidance.

Vice-Chair Bassi feels current policy is a henderence to development.

Applicant Castillo responded over the asthetic if the proposed appearance and asked if is better than what it is now. He stated that the proposed parking has more than what the downtown businesses currently have and that other cities procedures are a lot more different.

Vice-Chair Bassi asked the Planner if this project is approved by the Planning Commission how can the Planning Commission be protected.

City Planner Galvez answered if Planning Commission grants the applicants appeal then the building permit can proceed forward. In terms of making changes, Staff is reviewing and interpreting the Zoning Code that was adopted by the previous City Council. Staff would come back with refinement of recommendations with what is significant and what is not in a future meeting. If this appeal proceeds to move forward other applicants can argue.

Vice-Chair Bassi asked that even after making amendments if applicants can make arguments.

City Planner Galvez answered yes.

Applicant Castillo stated that if guidelines change tomorrow then applicants need to follow those guidelines. If there are changes that are made today and guidelines change next week and he submits an application then he would have to abide by the new guidelines.

Chair Wallis closed the Public Hearing Comment period at 8:20 p.m.

Motion by Vice-Chair Steve Bassi, seconded by Commissioner Bath, Granting the applicant's proceed with building permit No. 3035 without requiring a Site Plan and Design Review application carried 4-1, by the following roll call vote:

AYES:	Vice-Chair Bassi, Chair Wallis, Commissioner Roth and Commissioner Bath
NOES:	Commissioner Mendonca
ABSENT:	None
ABSTAIN:	None

Vice-Chair Bassi asked Planner Galvez how can old buildings be refreshened and mentioned that a process needs to be looked at. He asked the Planner when will there be a table discussion to address what is significant and what is not.

City Planner Galvez thanked Commissioner Bassi for his direction and that in the following meeting this can be discussed.

Chair Wallis apologized to applicant Castillo for postponing the last Planning Commission meeting due to the lack of quorum.

Applicant Castillo emphasized that there should be a streamlined version for revitalizing the downtown.

Sr. Administrative Analyst announced that for the record, Happy Bains joined the meeting via phone at 7:43 p.m.

B. Continued Discussion of the City of Livingston Planning Commission Policies as Amended July 2015, propose the establishment of Meeting Procedures.

City Planner Galvez reviewed the tentative changes to the City of Livingston Planning Commission Policies and answered questions from the Planning Commissioners.

City Planner Galvez reviewed the Planning Commission Policies and proposed changes.

Vice-Chair Bassi & Commissioner Roth agree that they do not want anything that says that residents have limit of speaking at a Planning Commission meeting and they want to encourage residents to come in and talk.

City Planner Galvez reviewed the Removal of Members and Vacancies and Removal of Planning Commissioners. LMC 2-2-3 Municipal Code will be emailed to the Planning Commissioners.

Chair Wallis mentioned that when a Planning Commissioner will not be in attendance the way of notifying the secretary is not narrowed down. There was a brief discussion among Planning

Commissioners and they all agreed that the notification should in writing. They agreed that if someone is going to be absent they can email the secretary a day before and avoid phone calls from staff to check if Planning Commissioners are attending the meeting or not.

City Planner Galvez mentioned that a revised Planning Commission Policies & Procedures will be provided in the next meeting and if there are any more additional comments to please email staff to incorporate them.

Chair Wallis asked regarding the percentages of improvements on a building, how it's going to be handled.

City Planner Galvez answered that in the next meeting there can be a discussion on this matter and gave his recommendations.

Chair Wallis asked if planning staff can research and see how other cities handle and define what is a significant improvement.

City Planner Galvez explained that in other cities there is an administrative review and an application and there is a cost for it and it streamlines the project.

REPORT OF THE PLANNING DIRECTOR

City Planner Miguel Galvez highlighted recent City Council actions and reported what to expect in the next Planning Commission meeting.

ADDITIONAL MATTERS AT THE DISCRETION OF THE CHAIR

Planning Commission
(None)

ADJOURNMENT

The regular meeting was adjourned by consensus at 8:54 p.m.

APPROVED: August 9, 2022

Chair, ROBERT WALLIS

Secretary of the Planning Commission,
Miguel Galvez

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Agenda Item #: 7.A.
Meeting Date: **August 9, 2022**
Report Date: August 5, 2022

CITY OF LIVINGSTON PLANNING COMMISSION
STAFF REPORT

CITY FILE NUMBER: Site Plan and Design Review Application No. 2022-01 – Duplex at 846 6th Street. A request to construct a residential duplex on vacant property zoned R-2, Medium Density Residential.

OWNER/APPLICANT: Renee Moreno, Owner and Applicant
835 8th Street, Livingston, CA 95334.

PROJECT LOCATION: 846 6th Street, generally located on west side of 6th Street, north of F Street in Livingston, CA.

ASSESSOR'S PARCEL NO.: 024-181-014

PROPOSED ACTION: Consider Resolution 2022-05, recommending to the City Council, approval of Site Plan and Design Review Application No. 2022-01, to develop a 2,270 square foot residential structure consisting of two new attached dwelling units on property located at 846 6th street.

PREPARED BY: Miguel Galvez, Contract City Planner

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LOCATION CHARACTERISTICS:

Property Size:	5,850 sq. ft. (approximately .13 net acres)
Present Land Use:	Vacant property
1999 General Plan Designation:	MD, Medium Density Residential
Existing Zoning:	R-2, Medium Density Residential
Street Access:	6th Street
Surrounding Land Uses:	Single and multi-family dwelling units in all directions.

PROJECT DESCRIPTION:

The applicant and owner, Renee Moreno is proposing to develop a single-story, 2,270 square foot duplex structure with two separate parking areas. One two-space parking area will be accessed from 6th Street. A second two-space parking area will be accessed from the alley, located to the west of the site. Each dwelling unit will consist of three (3) bedrooms and two (2) baths. Access to the off-street paved parking spaces will be from 6th Street and from the alley. Air conditioning units are proposed to be located along the south of the proposed building on the ground to obscure their view from the street. On site storm water runoff will be channeled to the proposed landscaped areas. A wood board fence exists along the southern property line. Fencing is not proposed along the northern property line.

The subject property is vacant. Full street improvements have been installed along 6th Street and the adjacent

alley has been recently graded and paved. A paved space for trash can totes is provided for along the side of each dwelling unit.

ANALYSIS:

The property was previously developed with a single family dwelling, but it was recently demolished. The project site is one of a remaining vacant residential properties in this neighborhood. Surrounding properties are also zoned R-2, Medium Density Residential. To the north, there is an existing duplex owned by the applicant. The proposed project will generally mirror this existing duplex. To the west is an alley, single-family dwellings and a duplex. A single family dwelling exists to the south. Single family dwellings are developed to the east, across 6th Street.

The proposal meets the City's Zoning Development Standards with respect to setbacks, height, lot coverage, off-street parking, private and common open space. The size, construction style, elevations, and colors are consistent with the existing buildings in the neighborhood.

Staff referred this proposal to various departments and agencies for comment and possible conditions for approval. The City Engineer responded with a memo dated July 26, 2022, with a list of recommended Conditions of Approval for the Site Plan and Design Review application. This memo is included in the attached Resolution as Conditions of Approval. The vast majority of these Engineering Conditions are standard Conditions of Approval required by City and State rules and regulations.

Also required by the City, consistent with all other new development, are Conditions requiring payment of applicable development impact fees and annexation to Capital Facilities District CFD 2017-01 (Urban Services).

ISSUES

Staff did not identify any design or development issues with this proposal.

GENERAL PLAN

The 1999 Livingston General Plan included the following Residential Land Use Objectives.

A. *Designate and allow for the development of a wide range of residential housing types in the City including housing for middle and upper income families to meet the needs of all Livingston residents.*

   Policy 1. b. Medium Density Residential contemplates a range of 7.6 to 11.9 units per gross acre. The subject site is proposing two units at a density of 10.9 units per gross acre, which is with the development range of the Medium Density Residential Designation.

B. *Promote stable, high quality residential standards.* The project will serve to develop a vacant lot in an area that is planned for medium density residential development densities.

   Policy 2. b. Development standards for interface between multi-family and residential and single family residential.

   Multi-family parking areas are required to have a landscaped setback of 10 feet when adjacent to next to R-1, single family zoned properties. As the project's proposed parking abuts property also zoned R-2, there is no setback required for the parking lot.

Policy 4 Site development techniques should be encouraged which ensure a mix of housing types throughout the community. The neighborhood is zoned R-2 and is developed with a mixture of single family and multi-family dwellings. The proposed three-bedroom units will help to provide housing opportunities to households that are unable to obtain homeownership opportunities.

The 2016 adopted Housing Element identified the following Housing goals and Policies.

C. *Goal 1: Housing and Economic Diversity. Promote the development of a balanced residential environment, including a range of housing types, with access to employment opportunities, community facilities, and adequate services to meet the needs of residents and persons working in Livingston.*

Policies:

1.1) Encourage the development of a variety of housing types at various prices in order to maintain a diverse housing stock for residents of all income levels.
1.6) Maintain an adequate housing stock to accommodate increases in the work force.
1.7) Encourage both commercial and residential development in Livingston in order to maintain a balance between jobs and housing.

The project will result in the development of two new market rate dwelling units that will located near the City's downtown area.

D. *Goal 3: Encourage the development of housing to meet the needs of lower- and moderate-income households, particularly those with special needs.*

Policies:

3.2) Provide technical assistance to developers of affordable housing for lower-income or special needs populations.

City staff provided guidance in the design of the project to ensure compliance with development standards for a project that will serve needs of lower- and moderate-income households.

ZONING ORDINANCE

The property is zoned R-2 and, as such, the Livingston Municipal Code requires all new construction to undergo Site Plan and Design Review consideration by the Planning Commission for a recommendation to the City Council for final consideration.

A Site Plan and Design Review application allows the City to evaluate the development proposal to assure compatibility, harmony in appearance with the neighborhood, reduction of any negative impacts, and orderly development of the area. The duplex will incorporate entrance porches, a composition shingle roof, stucco walls with exterior decorative wall banding. The project site will also incorporate landscaping areas in front of the units.

Staff is of the opinion that the design, height, materials, and development intensity is consistent with the surrounding neighborhood.

The subject property is small, but its proposed design meets the development standards of the R-2 zoning district. Given the City's strong need for more rental units, staff is very supportive of this request and recommends the Planning Commission to positively forward this Project on to the Council.

ENVIRONMENTAL REVIEW:

The proposed Project is eligible for a Categorical Exemption under two classifications of the California Environmental Quality Act (CEQA) Guidelines: Class 3, Section 15303 (b) - New Construction of no more than four new dwellings per site. Class 32 - Infill development Section 15332. This Exemption applies to Projects within the City Limits that are consistent with the General Plan and Zoning Ordinance, provided all utilities and City services are available, no more than 5 acres in size on land with no value as habitat for endangered, rare, or threatened species. The project site is within a developed urban location and complies with all of the above listed conditions to qualify for this categorical exemption. This development would also have no significant effects relating to traffic, noise, air, or water quality. A Notice of Exemption citing these categorical exemptions is recommended.

RECOMMENDATION:

Staff recommends the Planning Commission approve the attached Resolution No. 2022-05, which recommends approval Site Plan and Design Review Application No. 2022-01 - Duplex at 846 6th Street by the City Council based on the Findings and Conditions of Approval contained in the attached Resolution.

ATTACHMENTS:

1. Site Plan and Design Review Resolution 2022-05
   Exhibit "A", Conditions of Approval
   Exhibit "B", 07/26/222 Memo from City Engineer Mario Gouveia
2. Aerial Vicinity Map, General Plan Map, and Zoning Map and Assessors Plat Map
3. Site Plan, Floor Plan, and Elevations
4. Exterior Color

RESOLUTION 2022-05

RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF LIVINGSTON RECOMMENDING TO THE CITY COUNCIL APPROVAL OF SITE PLAN AND DESIGN REVIEW 2022-01 TO DEVELOP A 2,270 SQUARE FOOT RESIDENTIAL STRUCUTURE CONSISTING OF TWO NEW ATTACHED DWELLING UNITS ON PROPERTY LOCATED AT 846 6TH STREET, LIVINGSTON, CA, (APN: 024-181-014)

WHEREAS, pursuant to Livingston Municipal Code ("LMC") Section 5-6-7, Renee Moreno, owner and applicant, submitted Site Plan and Design Review Application No. 2022-01 for the development of two new attached dwelling units on property located on the west side of 6th Street, north of F Street at 846 6th Street, Livingston, CA (Assessor Parcel Number 024-181-014); and

WHEREAS, the site is zoned R-2 (Medium Density Residential), and has a General Plan designation of Medium Density Residential according to the official Zoning Map of the City of Livingston and the 1999 Livingston General Plan; and

WHEREAS, LMC Section 5-6-7 requires the approval of a Site Plan and Design Review application for new structures within the R-2 zoning district to assure compatibility, harmony in appearance in neighborhoods, reduction of negative impacts of nonaesthetic development, and orderly development of the community; and

WHEREAS, a public hearing for the proposed project has been properly noticed by posting, a newspaper ad, and a mailing to adjacent properties within 300 feet of the site; and

WHEREAS, the proposed project is categorically exempt from the California Environmental Quality Act ("CEQA") under Section 15303 (b) New Construction of no more than four dwellings per site and under Section 15332 In-Fill Development Projects and a Notice of Exemption will be filed with the Merced County Clerk within five (5) days of project approval; and

WHEREAS, staff has reviewed the project with reference to the 1999 General Plan and the Zoning Ordinance (specifically Sections 5-6-7 "C" thru "E"); and finds that, based on the evidence documented within the associated staff report and proceedings of the public hearing, the proposed use, its site plan and design, is generally consistent with the General Plan, is permitted and complies with the Zoning Ordinance in that the site plan and design meets the zoning standard and requirements (including those specifically referenced above).

NOW, THEREFORE, BE IT RESOLVED that the Livingston Planning Commission hereby adopts Resolution 2022-05, recommending City Council approval of the Site Plan and Design Review Application No. 2022-05 - Duplex at 846 6th Street, including submitted site plan, floor plan and elevations.

BE IT FURTHER RESOLVED that the Conditions of Approval within Planning Commission Resolution 2022-05, Exhibit A, are hereby recommended for approval.

The foregoing resolution was introduced and moved for adoption on August 9, 2022, by Commissioner _____, and being duly seconded by Commissioner _____, was passed by the following vote:

AYES: Planning Commissioners:
NOES: Planning Commissioners:
ABSENT: Planning Commissioners:
ABSTAIN: Planning Commissioners:

ATTEST:

Chair, ROBERT WALLIS

Secretary of the Planning Commission,
MIGUEL GALVEZ

Exhibit A
Conditions of Approval

1. The Developer shall comply with all federal, state and local laws, policies, standards and requirements applicable to such a use and obtain a building permit and all other permits applicable to such a use and shall pay all fees and exactions applicable to such a use; and

2. The Developer shall include residential sprinklers in the development consistent with the requirements of the Merced County Fire Department and shall comply with other Fire Department requirements and standards; and

3. The Developer shall comply with the 19 Conditions of the City Engineer as listed in the Memo dated July 26, 2022, attached hereto and made a part of this Resolution; and

4. The Developer shall indemnify, defend and hold harmless the City and its officials, officers, employees, agents, and consultants from any and all legal or administrative actions or other proceedings challenging this approval or any subsequent approval associated with this project; and

5. The development of the site shall be consistent with approved plans, elevations, and colors. Minor variations from approved plans, elevations, and colors may be allowed at the review and approval of City staff; and

6. The developer shall submit final landscape plans for City staff review and approval specifying plant selection, size and irrigation consistent with the preliminary landscape concept submitted as part of the application and described in the associated staff report and shall pay the landscape inspection fee to insure installation was done according to plan; and

7. Any exterior lighting shall be submitted for City staff review and approval. Such lighting shall be directed to areas on the subject property itself and shall avoid shinning toward adjacent properties; and

8. The Developer shall comply with all requirements of PG&E as it relates to the construction of the project; and

9. The Developer and/or Operator shall keep the site free from trash and debris and shall maintain the premises in a clean and orderly manner.

10. The Developer shall annex this Project site into the Community Facilities District (CFD) No. 2017-01 prior to the issuance of the Certificate of Occupancy, including payment of administrative costs associated with the annexation proceedings.

CITY OF LIVINGSTON

PROJECT REFERRAL
PROJECT AND ENVIRONMENTAL REVIEW

DATE: July 5, 2022

TO:

State Agencies

( )	Caltrans Dist. 10, Tom Dumas & Hilda Sousa	(X)	SJVAPCD
( )	California Fish & Game Region 5, Craig Bailey	( )	State Clearinghouse (15)
( )	Regional Water Quality Control Board, Region 5	( )	Other

Local Agencies

(X)	Charter Communication, Abel Davila	(X)	Frontier Communications, Kirby Bernard
(X)	PG & E, Plan Review Team	(X)	Livingston Unified School District, Nick Jones
(X)	Merced Union High School District, Melissa Miller	(X)	U.S. Post Office, Sucha S. Attwal
(X)	Merced Irrigation District, Ann-Marie Felsinger	(X)	Gilton Solid Waste, Ted Gilton
(X)	Merced Irrigation District, Mike Morris	( )	Merced County Planning, Mark Hendrickson
(X)	MID, Waterplanning@mercedid.org	( )	Merced County LAFCo, Bill Nicholson
(X)	MID, Electricplanning@mercedid.org	( )	Merced County Farm Bureau, Breanne Ramos
(X)	Merced Irrigation District, Kevin L. Malone	( )	Livingston Library, Angelica Gomes
( )	MCAG, Stacie Guzman		

City Staff

(X)	City Manager, Vanessa Portillo	(X)	Merced County Fire, Rich Bohn – Fire Marshal
(X)	City Engineer, Mario Gouveia	(X)	Merced County Fire, Brian White – Battalion Chief
(X)	Gouveia Engineering, Noe Martinez	(X)	Merced County Fire, Mark Pimentel – Battalion Chief
(X)	Building Inspector, Nick Gonzales	( )	City Attorney, Tom Hallinan
(X)	Recreation Superintendent, Jacquie Benoit	(X)	Police Chief, FWD to: Deanna Soria
( )	City Council (5)	(X)	Public Works Director, Tony Avina
( )	City Hall Counter	( )	Planning Commission (7)

FROM: Miguel Galvez, Contract City Planner
City of Livingston, 1416 C Street, Livingston, CA 95334

TYPE OF APPLICATION & PROJECT TITLE:

Site Plan and Design Review (SPDR) Application No. 2022-01 – Request to construction a residential duplex, comprised of two 1135 sq. ft. dwelling units, totaling 2270 sq. ft. on a 5,850 square foot lot. Each dwelling unit will consist of three (3) bedrooms and one (2) bath. The subject property is located at 846 6th Street, Livingston, CA and also identified as APN # 024-181-014. The subject property is owned by Renee Moreno. The subject property was previously developed with a single family home, but it has since been demolished and the site is currently vacant.

The subject property is zoned R-2 (Medium Density Residential) with a MD (Medium Density Residential) General Plan designation. The site plan illustrates four (4) off street parking spaces, two (2) located east of Unit A and accessed from 6th Street and two (2) located on the west side of Unit B and accessed from

the adjacent alley right-of-way.

The project is eligible for a Categorical Exemption under CEQA Section 15303 (b) Class 3 - New Construction or Conversion of Small Structures, totaling no more than four new dwellings per site; and under Section 15332 Class 32 – Infill Development Projects.

ATTACHED REFERENCE MATERIALS:

The materials attached to assist in the review of this project include:

1. Project application
2. Project location map,
3. Assessor's Plat map
4. Project zoning map,
5. Project general plan map,
6. Project site plan and building elevations.

Please review the attached application materials and submit your comments to me no later than July 26, 2022, regarding required information, permits and/or approvals in consideration of this project. Your comments should include any foreseeable problems which might be created by the project and any conditions you feel are necessary to the granting of approval. You may return a response by either completing the comment section below or writing a detailed letter and sending it to the Livingston Planning Department via fax: (209) 394-4190, email: mabeloe@livingstoncity.com, or regular mail: City of Livingston Planning Department, 1416 C Street, Livingston, CA 95334. **The response form is requested for our files; if you have no comments, please indicate that on this response form and return to the Livingston Planning Department.**

RESPONSE REQUESTED BY: Miguel Galvez, Contract City Planner, City of Livingston, (209) 394-5510, Ext. 123.

********PLEASE COMPLETE THE FOLLOWING OR SUBMIT A SEPARATE COMMENT LETTER********

COMMENT(S): SEE ATTACHED MEMO DATED July 26, 2022 FOR A DETAILED LIST OF ITEMS FOR THE REFERENCED PROJECT ON BEHALF OF THE CITY ENGINEER.

PERSON REVIEWING PROJECT: Noe Martinez, P.E.

NAME OF AGENCY RESPONDING: GOUVEIA ENGINEERING

PHONE NUMBER: (209) 854-3300 E- MAIL: nmartinez@quadeng.com

GOUVEIA ENGINEERING

MEMORANDUM

TO: Miguel Galvez, Contract City Planner

FROM: Mario B. Gouveia, City Engineer

SUBJECT: Engineering Response to Project Referral for Renee Moreno SPDR 2022-01 for 846 6th Street, Livingston CA

DATE: July 26, 2022

CC: Vanessa Portillo, City Manager

The following are Engineering's comments and/or Conditions of Approval for Site Plan Design Review 2022-01 for 846 6th Street in the City of Livingston.

SPDR 2022-01

1. The developer/applicant shall prepare improvement plans (separate from the building plans) for all applicable site development including, but not limited to, demolition, site grading and drainage, utilities, striping and signage, landscape, on-site and off-site (street and alley frontage) improvements.
2. Public improvements shall conform to the latest edition of the City Improvement Standards and Specifications and any modifications thereto approved by the City Engineer in place at the time of construction. Improvements shall conform to other City adopted documents including the General Plan, Water Master Plan, Sewer Master Plan and Storm Water Master Plan. The work shall comply with all applicable State, Federal, and local laws and regulations.
3. All existing and proposed property lines shall be shown on the improvement plans.
4. Applicant shall prepare an Erosion Sediment Control Plan (ESCP) pursuant to the City of Livingston's MS4 Phase II Permit requirements for construction activities.
5. Unless exempt, prepare and provide volumetric sizing calculations, low development impact (LID) measures, operation and maintenance plan (O&M), and statement of responsibility agreement for storm water management in accordance with the City of Livingston's Post-construction Standards Plan and pursuant to the City's Phase II MS4 Permit requirements.
6. Unless exempt, prepare a Dust Control Plan (DCP) and file the Plan with the San Joaquin Valley Air Pollution Control District for construction activities pursuant to Regulation VIII (Rules 8011-8081).
7. A soils report prepared by a California registered geotechnical engineer shall be submitted to the City Engineer as part of the improvement plans. The soils report shall include recommendations for the structural sections for slabs, excavation, compaction, clearing and grubbing requirements, etc.
8. Prepare grading and encroachment permits for the project. Applicant shall pay the permit fee, plan check and inspection fees, and furnish improvement securities pursuant to the City's improvement standards, municipal code, and ordinances.

9. Applicant shall pay all applicable development impact fees for Municipal Facilities, Police, Fire Protection, Streets and Bridges, Water, Domestic Wastewater, Storm Drainage, and Parks.

10. Construct all proposed connections for dry utilities underground and within required easements by the respective utilities.

11. Developer shall replace/repair existing sidewalk, driveway approach, curb and gutter not meeting ADA and/or City standards along the street frontage of 6th Street extending the length of the property line.

12. Provide on-site and off-site ADA accessible path for pedestrians and bicyclists.

13. On-site parking areas must be designed in accordance with City Standards.

14. Storm runoff from on-site development shall be conveyed through new curb drains into the existing gutter to gravity drain to the nearest catch basin.

15. Connect to the existing 8-inch water main in the alleyway along the west side of the property or as approved by the City Engineer, for all proposed domestic, irrigation, and fire connections. Domestic and irrigation line shall have separate metered connections. Developer shall incorporate water recirculation for residential sprinkler system at the water service or onsite plumbing. Connections shall include shutoff valves, corporation stops, water meters, backflow preventers, post indicator valves, and fire department connections, as applicable.

16. Connect to the existing 8-inch sewer main in the alleyway along the west side of the property or as approved by the City Engineer, for sanitary service.

17. Provide trash collection as approved by the City Planner and the City's waste management company.

18. The Developer shall complete the alley improvements as shown on the site plan.

19. Repairs to any damaged City Facilities such as road/alley pavement, valley gutter, sidewalk, curb and gutter caused by construction and construction-related activities shall be completed as required by the City of Livingston and at developer's sole cost.

Aerial Vicinity Map

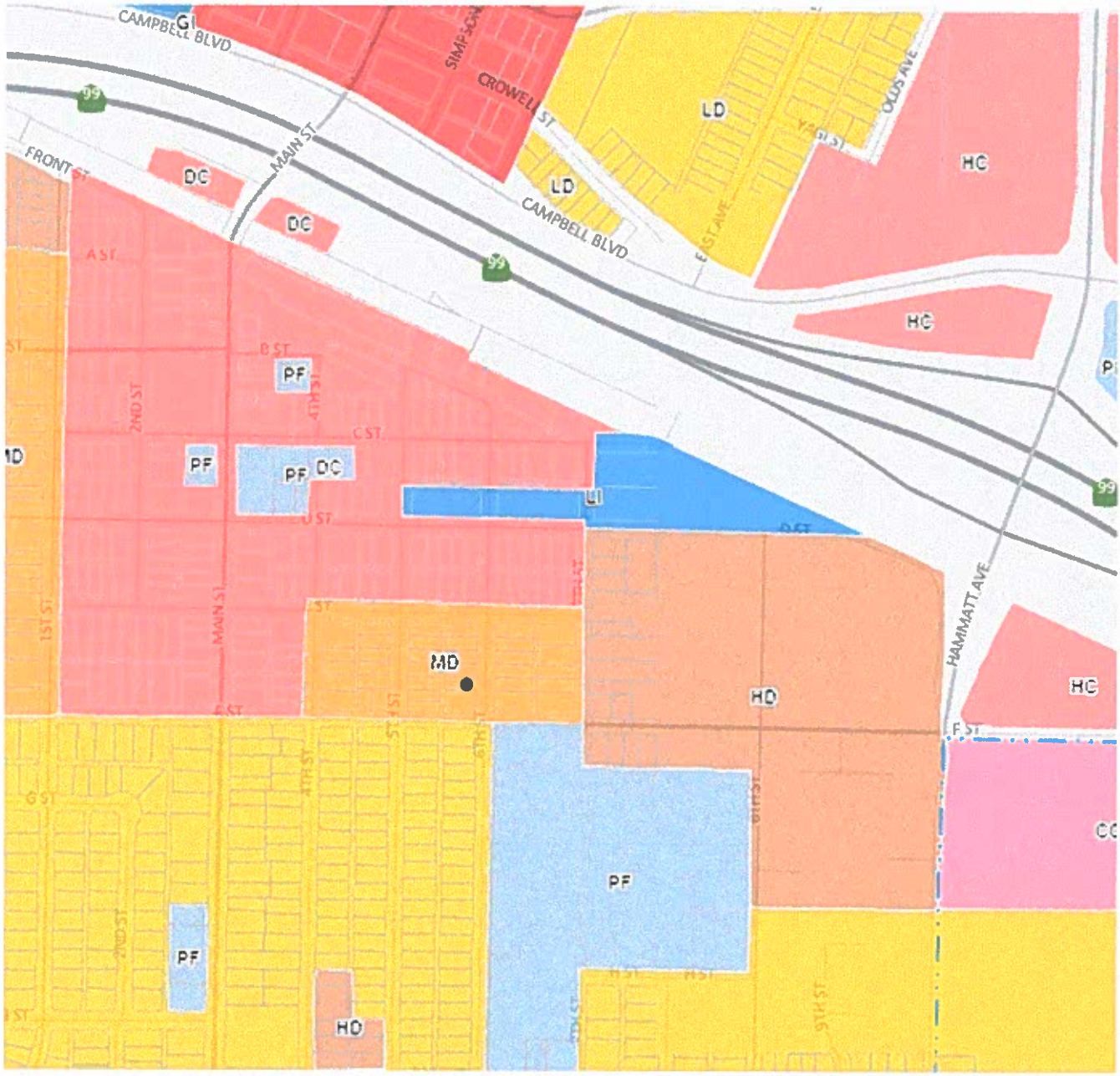
Site Plan and Design Review Application 2022-01 – 846 6th Street

Source: Google Maps 2022

Site Plan and Design Review Application No. 2022-01

City of Livingston General Plan Map

846 6th Street Duplex



Site Plan & Design Review 2022-01

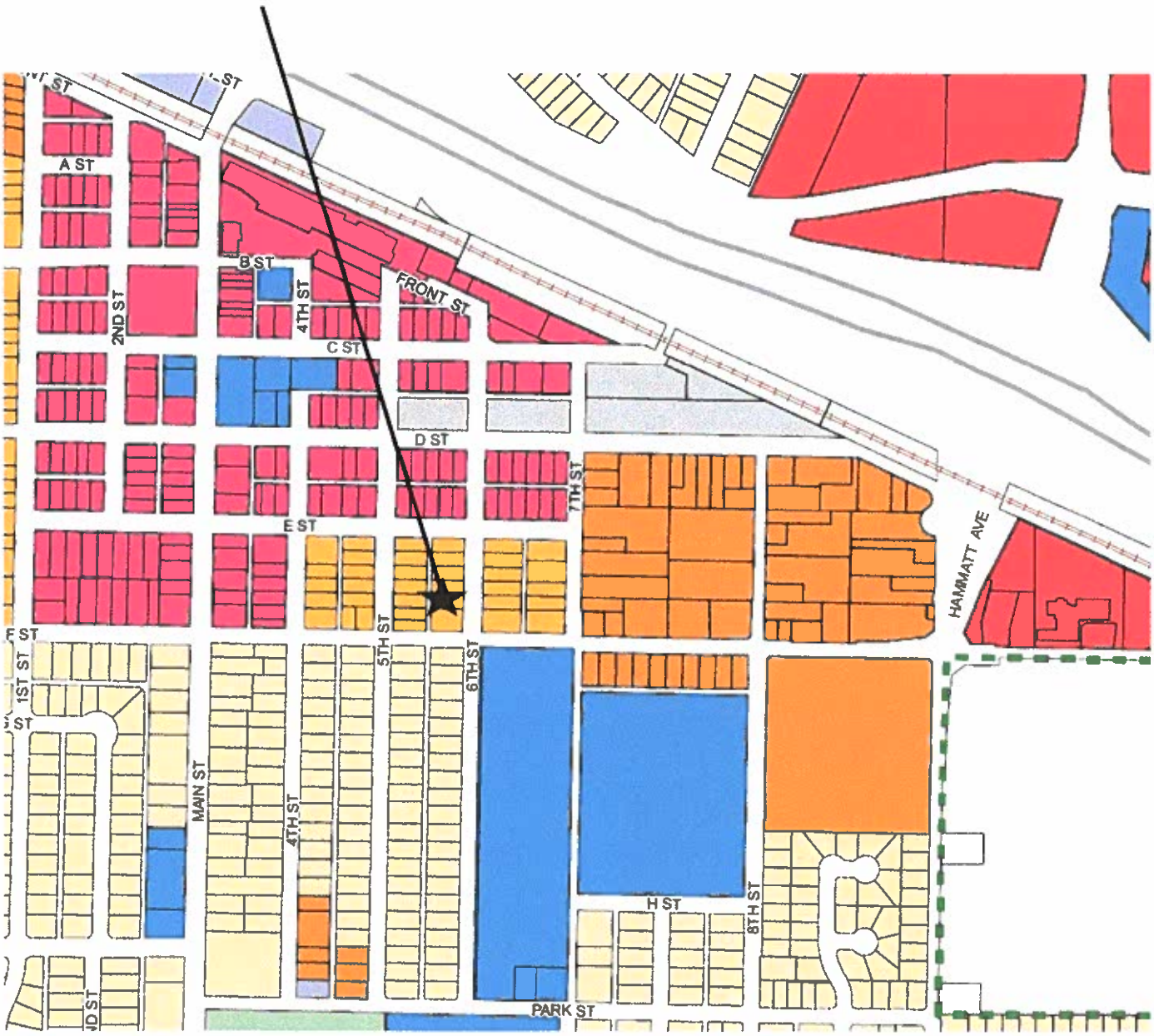
Owner: Renee Moreno

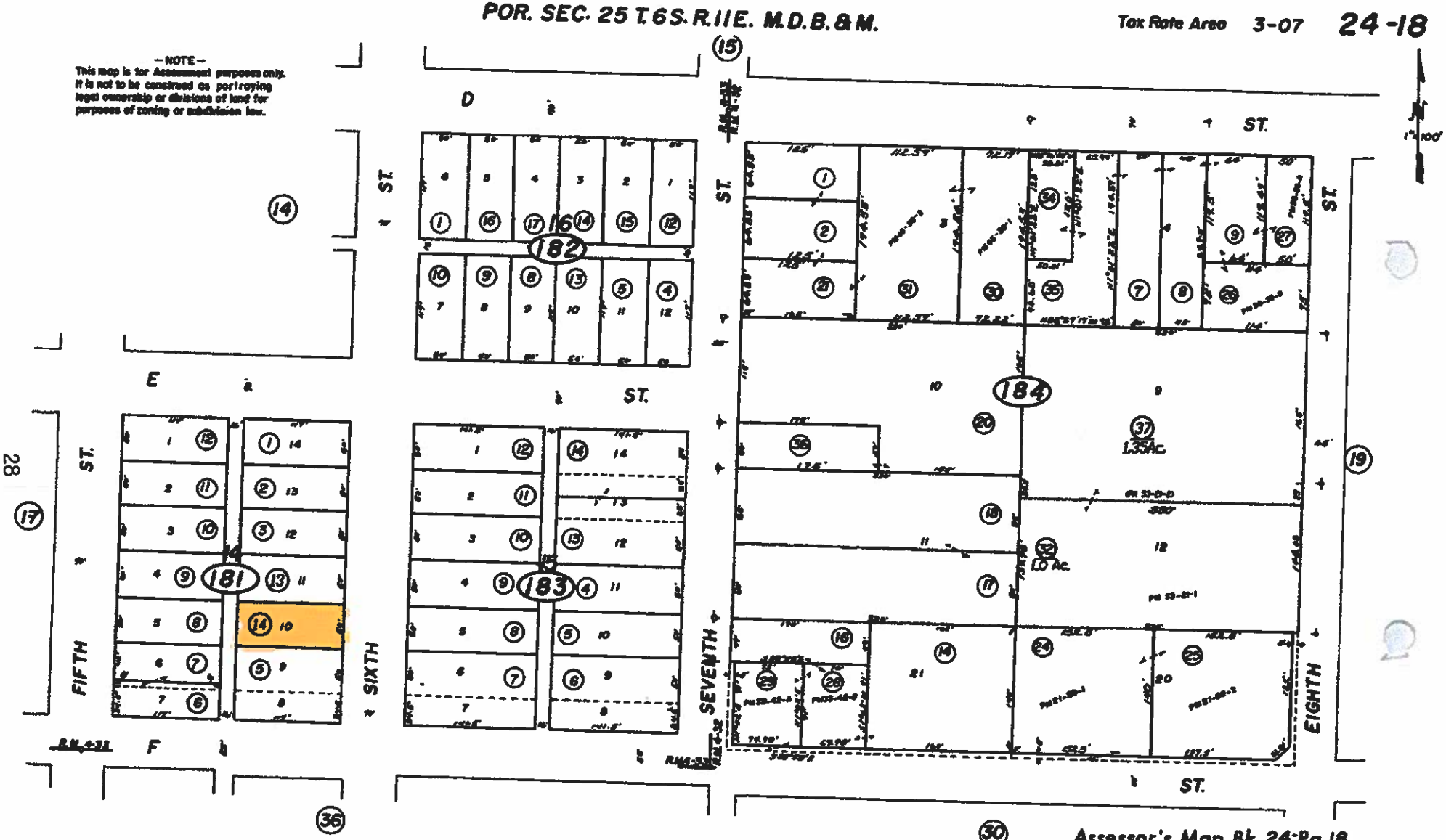
Address: 846 6th Street

APN: 024-181-014

Zoning: R-2, Medium Density Residential

General Plan: MD-Medium Density Residential



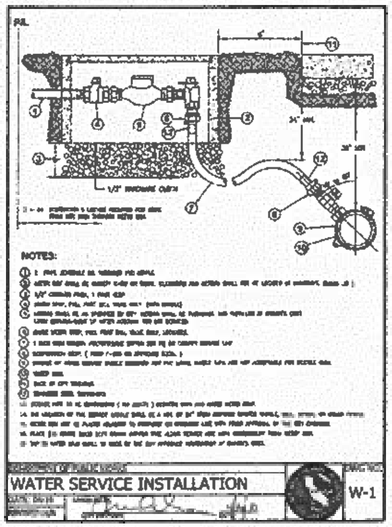


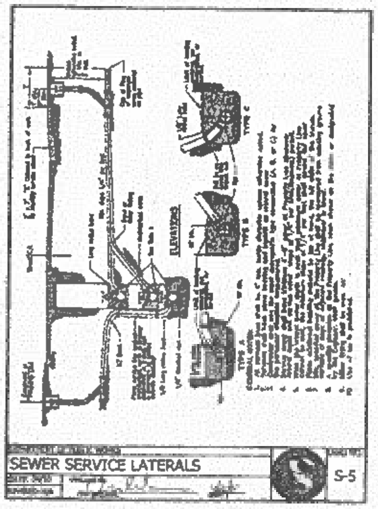
REVISED 11/75
3/78
1/82
12-07-13

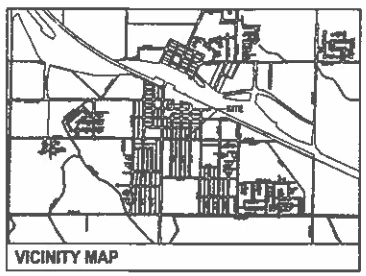
Livingston Realty Co.'s Sub. R.M., Vol. 4 Pg. 32
Livingston Realty Co.'s Add. R.M., Vol. 4 Pg. 33

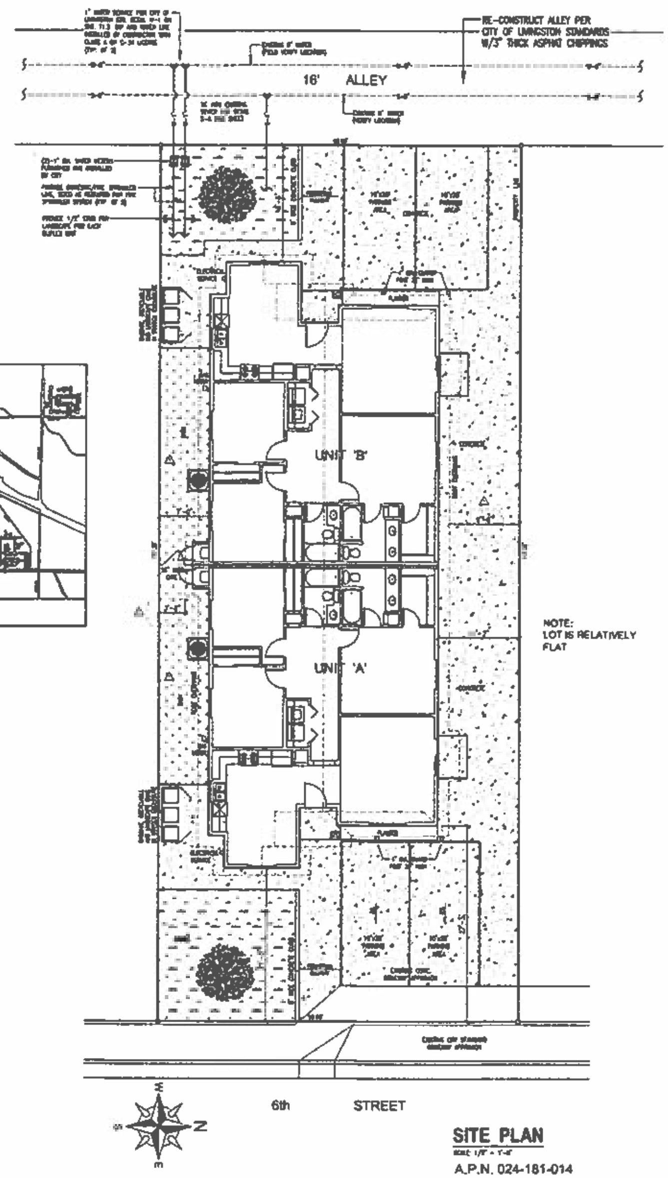
NOTE—Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Circles

Assessor's Map Bk. 24-Pg. 18
County of Merced, Calif.
1955









SITE PLAN

A.P.N. 024-181-014

Lot Size: APN 024-181-014	5863 S.F.
Area Under Roof:	2474 S.F.
Lot Coverage:	42%
Impervious Area	4615 S.F.

BUILDING CODES:

This project shall comply with the following:

2019 Editions of the California Building Code (CBC), California Mechanical Code (CMC), California Plumbing Code (CPC), the California Electrical Code (CEC), the California Energy Code (CalEC), the California Fire Code (CFC), the California Residential Code (CRC) and the CA Green Building Standards Code.

SQUARE FOOTAGE

TOTAL NET LIVING AREA

UNIT 'A' - 1135	PORCH	22 s.f.
UNIT 'B' - 1135	PORCH	27 s.f.

GENERAL NOTES:

1.) This project is not located within a Flood Zone and shall conform to Sec. 1805.3.4 for the min. grading standards.
2.) Fire Sprinkler Plan by Separate Permit
3.) Solar Panels by Separate Permit
4.) Provide HERS verification per Title 24.
5.) Residential developments shall comply with local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO) per CalGreen Mandatory Measures Section 4.304.

PROJECT DATA:

TYPE V-B CONSTRUCTION
SEISMIC DESIGN CATEGORY 'D'
OCCUPANCY GROUP R3
ONE STORY

DESIGN CRITERIA

ROOF:
DEAD LOAD: 30 PSF
LIVE LOAD: 20 PSF

WIND:
ULTIMATE SPEED: 95 MPH
DESIGN SPEED: 95 MPH
EXPOSURE: 'C'

SEISMIC:
SEISMIC DESIGN CATEGORY: 'D'
SITE CLASSIFICATION: 'D'
SOIL BEARING CAPACITY: 1000 PSF

PROJECT ENGINEER:

JIM XU, SE 4043
405 W. 18th Street
Merced, CA 95340
Ph: (209) 761-4642

SHEET INDEX:

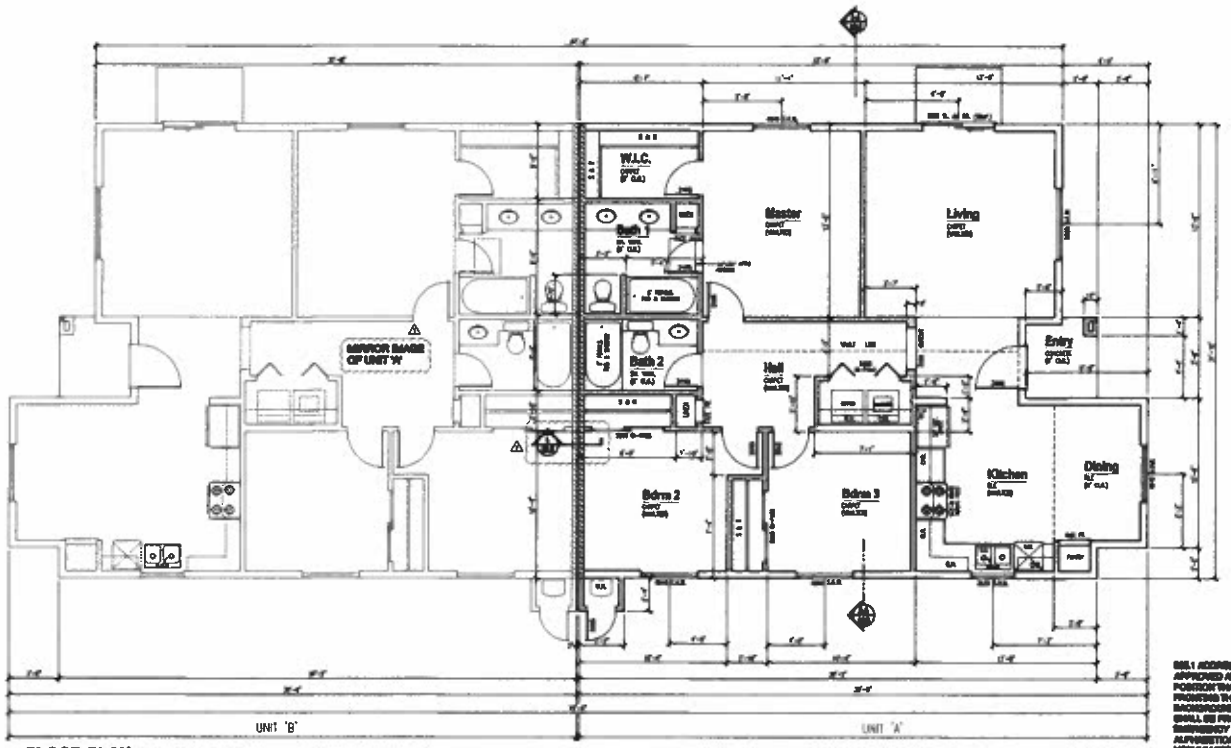
PREPARED BY
RICK ROWLAND
Residential Design and Remodels
RICK ROWLAND, Owner
P.O. Box 600
Merced, CA 95341
Ph.: (209) 761-6200

PREPARED FOR
RENEE MORENO
745 Elwood Court
Livingston, CA 95334

Date: MAY 2021
Scale: AS SHOWN
Drawn By: RICK
File Name: MORENO.ZIP

TITLE SHEET / SITE PLAN

T1.0



FLOOR PLAN

SCALE: 1/4" = 1'-0"

SEC. 1 ADDRESS IDENTIFICATION. NEW AND EXISTING BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. THESE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND. WHERE REQUIRED BY THE FIRE CODE OFFICIAL, ADDRESS NUMBERS SHALL BE PROVIDED IN ADDITIONAL APPROVED LOCATIONS TO FACILITATE EMERGENCY RESPONSE. ADDRESS NUMBERS SHALL BE ARABIC NUMBERS OR ALPHABETICAL LETTERS. NUMBERS SHALL BE A MINIMUM OF 4 INCHES HIGH WITH A MINIMUM STROKE WIDTH OF 0.5 INCH. WHERE ACCESS IS BY MEANS OF A PRIVATE ROAD AND THE BUILDING CANNOT BE VIEWED FROM THE PUBLIC WAY, A MONUMENT, POLE OR OTHER SIGN OR MEANS SHALL BE USED TO IDENTIFY THE STRUCTURE. ADDRESS NUMBERS SHALL BE MAINTAINED.

CONSTRUCTION NOTES:

1.) ACCURATE ENGINEERING PERMIT PLANS CONSISTENT DEPARTMENT PRIOR TO WORK IN RIGHT-OF-WAY

2.) HANDRAIL RAILING SHALL HAVE A MINIMUM CLEAR HEIGHT OF 7'-4" MEASURED VERTICALLY FROM THE NOSING OF THE TREAD OR FINISHED SURFACE OF THE LANDING OR PLATFORM AND A MAXIMUM HEIGHT OF 8'-8" IN HEIGHT.

3.) THE MINIMUM WIDTH FOR A HALLWAY IS 36 INCHES IN WIDTH.

4.) WATER CLOSET COMPARTMENTS MUST HAVE 30" MIN. WIDTH AND 24" CLEAR IN FRONT OF THE WATER CLOSED. LINEN CLOSETS TO HAVE A MINIMUM PLUMBING CAPACITY OF 1.28 GALLONS.

5.) ALL WALLS TO BE 2X STUDS @ 16" O.C. AND OR IN ACCORDANCE WITH TABLE R602.3(5) EXCEPT THAT WALKS GRADE STUDS SHALL NOT BE SPACED MORE THAN 16 INCHES ON CENTER, OR SUPPORT MORE THAN A ROOF AND CEILING OR EXCEED 9 FEET IN HEIGHT FOR EXTERIOR WALLS AND LOAD BEARING WALLS OR 10 FEET FOR INTERIOR NON-LOAD BEARING WALLS.

6.) MASONRY AND FACTORY-BUILT FIREPLACES SHALL HAVE NONE FITTING DOORS, OUTSIDE COMBUSTIBLE AIR INTAKE AND A NONE FITTING FLUE DAMPER.

7.) FACTORY-BUILT FIREPLACES SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF THEIR LISTING OF MANUFACTURER'S INSTRUCTIONS.

8.) HEARTH EXTENSIONS OF LISTED FACTORY-BUILT FIREPLACES SHALL CONFORM TO THE CONDITIONS OF LISTING AND INSTALLER INSTRUCTIONS.

9.) COMBUSTIBLE MANTEL SHALL NOT BE PLACED WITHIN 3 INCHES OF FIREPLACE, RANGE SHOWER OR CHIMNEY WALLS.

10.) HEARTH SHALL BE A MINIMUM OF 4 INCHES THICK OF NON-COMBUSTIBLE MATERIAL AND SHALL BE SUPPORTED BY NON-COMBUSTIBLE MATERIALS.

11.) HEARTHS FOR FIREPLACE OPENINGS LESS THAN 6 SQ. IN AREA SHALL HAVE AN EXTENSION OF 16 INCHES IN FRONT AND 8 INCHES TO SIDES. HEARTH FOR FIREPLACE OPENINGS 6 SQ. OR GREATER IN AREA SHALL HAVE HEARTH EXTENSIONS OF 20 INCHES IN FRONT AND 12 INCHES BEYOND SIDE OF THE FIREPLACE OPENING.

12.) METAL CHIMNEYS SHALL BE ANCHORED AT EACH FLOOR AND ROOF WITH TWO 1 1/2" X 1/8" MIN. STRAPS LOOPED AROUND THE OUTSIDE OF THE CHIMNEY INSTALLATION AND NAILED WITH NOT LESS THAN SIX 8d NAILS FOR STRAP AT EACH ANCHOR.

13.) FIBER-CEMENT, FIBER-MAT REINFORCED CONCRETE, GLASS MAT GYPSUM BACKERS, OR FIBER-REINFORCED GYPSUM BACKERS, SHALL BE USED AS A BASE FOR CERAMIC TILE, TILES IN TUB AND SHOWER AREAS AS WELL AS TUB, PANELS IN SHOWER AREAS PER 2019 CRC.

14.) TEMPERED GLASS IS REQUIRED IN GLASS WITHIN 24" OF A DOOR, GLASS AT A TUB OR SHOWER THAT IS BELOW 60 INCHES FROM THE FLOOR.

15.) ELECTRICAL OUTLETS SERVICING A SIGN, SPARK OR FLAME MUST BE AT LEAST 10' ABOVE FINISH FLOOR LEVEL OR A GRADE.

16.) HEIGHT TO COMBUSTIBLE MATERIAL ABOVE KITCHEN RANGES, 24" (APPROVED), 24" (PROVIDED), 0" (NONE)

17.) SHOCK HEADER TO BE PROVIDED WITH A TEMPERATURE AND PRESSURE RELIEF VALVE HAVING A FULL SIZED DRAIN OF GALVANIZED STEEL OR PLASTIC DRAIN SUPPLY TO THE OUTSIDE OF THE BUILDING WITH THE END OF PIPE NOT MORE THAN 2 FT. OR LESS THAN 6" ABOVE THE GRADE, POINTING DOWNWARD, THE TERMINAL AND BEING UNTHREADED AND BE A MIN. 18" FROM FLOOR TO PILOT VENT.

18.) PROVIDE AN APPROVED WATERPROOF BUILDING PAPER UNDER WOOD SIDING.

19.) PROVIDE DRYER VENT FOR DRYER TO OUTDOOR OF BUILDING, WITH EACH VENT SHAFTS, THE LENGTH OF DRYER VENTS SHALL NOT EXCEED A TOTAL COMBINED HORIZONTAL AND VERTICAL LENGTH OF 14 FEET, INCLUDING TWO 90 DEGREE ELBOWS. TWO FEET SHALL BE DEDUCTED PER EACH 90 DEGREE ELBOW IN EXCESS OF TWO FLEX DUCTS CONNECTIONS SHALL NOT BE CONCEALED WHERE CONSTRUCTION.

20.) FLEXIBLE FACTORY-MADE AIR DUCTS SHALL BE SUPPORTED WITH 26 GAUGE X 1 1/2" GALVANIZED IRON STRAPS AT 4' MAX. O.C. UNLESS OTHERWISE REQUIRED BY MANUFACTURER'S FIELD INSTALLATION INSTRUCTIONS.

21.) AFTER INSTALLING INSULATION, THE INSULATION INSTALLER SHALL POST ON A CONSPICUOUS LOCATION IN THE BUILDING CERTIFICATE SIGNED BY THE INSTALLER AND THE BUILDER STATING THAT THE INSTALLATION CONFORMS WITH THE REQUIREMENTS OF TITLE 24, PART 2, CHAPTER 2 5.5, AND THAT MATERIALS INSTALLED CONFORM WITH THE REQUIREMENTS OF TITLE 24, CHAPTER 2, SUBCHAPTER 1, ARTICLE 2. THE CERTIFICATE SHALL STATE THE MANUFACTURER'S NAME AND MATERIALS INSTALLED "R" VALUE, AND (IN APPLICATIONS OF LOOSE FILL INSULATION), THE MINIMUM INSTALLED WEIGHT PER SQUARE FOOT CONSISTENT WITH THE MANUFACTURERS LABELED DENSITY FOR THE DESIRED "R" VALUE. SECTION 1 (403 (a) TITLE 24, CAC

22.) AN EXHAUST HOOD IS REQUIRED OVER THE COOK STOVE AND MUST BE VENTED TO THE OUTDOOR

23.) SHOWER COMPARTMENTS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS SHALL BE FINISHED WITH A NON-ABSORBENT SURFACE 80 A HEIGHT NOT LESS THAN 6 FEET ABOVE THE FLOOR PER 2019 CRC

24.) PROVIDE SHEET METAL DRAINAGE PAN UNDER THE MECHANICAL EQUIP. TO ALLOW FOR LPS SPAN (UPC 1710(C)) CONDENSATION AIR VENTING TO BE PROVIDED BY VENTS WITHIN 12" OF FLOOR AND CEILING. STRAP SHOCK HEADER WITH 20 GAUGE X 1" THICK STRAP AT THE TOP AND BOTTOM 1/3 OF THE WATER HEATER, 4" MINIMUM ABOVE THE CONTROLS AT THE BOTTOM. SEE DETAIL ON TYPICAL DETAIL SHEET.

25.) SHOWERS AND TUB/SHOWERS SHALL BE PROVIDED WITH GRADE PRESSURE BALANCE OR THERMOSTATIC MIXING VALVES HAVING A MAX. MIXED WATER SETTING OF 120 DEGREES.

26.) SHOWER STALLS AND TUB ENCLOSURES MUST CONFORM TO THE REQUIREMENTS OF 2019 CPC THRESHOLD 2'-0" (CEP)

27.) HOME RUNS AND LOOP SPRINKLER SYSTEMS SHALL HAVE APPROVED VACUUM BREAKER DEVICES

28.) 22" X 30" ATTIC ACCESS. THE OPENING SHALL BE LOCATED IN A CORRIDOR, HALLWAY OR OTHER ACCESSIBLE LOCATION THAT DOES NOT REQUIRE THE REMOVAL OR REMOVAL OF OBSTRUCTING ITEMS TO GAIN ACCESS TO THE ATTIC. OPENING SHALL BE WEATHER STRIPPED TO PREVENT AIR LEAKAGE. ATTIC ACCESS SHALL HAVE PERMANENTLY ATTACHED INSULATION USING ADHESIVE OR MECHANICAL FASTENERS.

29.) PROVIDE MAILING FOR MAILING SCHEDULE TABLE R602.3(1) ON TYP. DETAIL SHEET

30.) GARAGE VENT. GARAGE DO NOT MEET THE MAILING REQUIREMENTS FOR MOST SOIL CONDITIONS HAS CONDITIONS IN OTHER HAZARDOUS ZONES.

31.) MECHANICAL BLACK DISCONNECTS MUST BE READILY ACCESSIBLE.

32.) MECHANICAL VENTILATION EXCESS MUST SUPPLY 5 CHANGES PER HOUR IN BATHROOMS, 3 CHANGES PER HOUR IN OTHER HABITABLE ROOMS.

33.) PROVIDE PERMANENT ACCESS AND CLEARANCE AS REQUIRED BY CAC 803 OR AS LISTED BY THE MANUFACTURER.

34.) WATER HEATERS SHALL NOT BE INSTALLED IN A CLOSET OR ALCOVE NOT PROVIDED 3" CLEAR WORKING SPACE ALONG THE SIDE, BACK, FRONT AND TOP OF THE FURNACE. CAC 804.1

35.) DUCTS SHALL BE CONSTRUCTED AND INSTALLED PER 2019 CAC DUCT R-VALUE PER TITLE 24

36.) FANS AND SPACE AIR EXHAUST SYSTEMS SHALL BE PROVIDED WITH BACKDRAFT DAMPERS OR AUTOMATIC DAMPERS TO PREVENT AIR LEAKAGE.

37.) AUTOMATIC SCHEDULE THERMOSTAT IS TO BE PROVIDED.

38.) THE PLUMBERS SHALL BE CERTIFIED BY CCO. A.) WATER HEATERS, B.) SHOWER HOSES AND FAUCETS, C.) SPACE CONDITIONING EQUIPMENT. TITLE 24 CAC

39.) APPROVED ADDRESS NUMBERS SHALL COMPLY WITH THE ADDRESS STANDARD APPROVED BY THE FIRE MARSHAL AND BUILDING OFFICIAL.

40.) ALL WINDOWS/DOOR GLASS TO BE DUAL PANE (TYP.)

41.) NO GAS PIPING SHALL BE INSTALLED IN OR ON THE GROUND UNDER ANY BUILDING OR STRUCTURE AND ALL EXPOSED GAS PIPING SHALL BE KEPT 6" ABOVE THE GRADE OF STRUCTURE. GAS PIPING UNDER A CONCRETE SLAB MAY BE PERMITTED ONLY WHEN INSTALLED IN ACCORDANCE TO THE STANDARDS APPROVED BY THE BUILDING OFFICIAL. THE TERM "BUILDING OR STRUCTURE" SHALL INCLUDE PATIOS AND STEPS, WHETHER COVERED OR UNCOVERED, BREEZEWAYS, ROOF PORTE-COCHERES, ROOFED PORCH, CARPORTS, COVERED WALKS, COVERED DRIVEWAYS AND SIMILAR STRUCTURES OR APPURTENANCES. (2019 CPC)

42.) ALL FACTORY FABRICATED DUCT SYSTEMS SHALL COMPLY WITH UL181. CONNECTION OF FACTORY FABRICATED DUCTS SHALL BE MECHANICALLY FASTENED. ALL PRESSURE-SENSITIVE TAPES, HEAT ACTIVATED TAPES AND MASTICS USED SHALL COMPLY WITH UL 181 OR UL 181-B. CLOTH-BACKED RUBBER ADHESIVE DUCT TAPES SHALL NOT BE USED. (2019 CEC)

43.) PROVIDE WEATHER STRIPPING ON ALL EXTERIOR DOORS AND WINDOWS, TITLE 24 CAC

44.) THE EXTERIOR CHALKBOARD OF THE DWELLING SHALL BE CAULKED AND SEALED TO LIMIT AIR INFILTRATION. TITLE 24 CAC

45.) THE MANUFACTURED DOORS AND WINDOWS SHALL BE CERTIFIED TO MEET CEC REQUIREMENTS TITLE 24 CAC

46.) SEWER AND WATER SYSTEMS SHALL BE DESIGNED AND INSTALLED TO MEET THE MINIMUM PROVISION OF THE CPC

47.) PIPING IN UNCONDITIONED SPACE LEADING TO AND FROM THE WATER HEATERS SHALL BE INSULATED WITH MINIMUM 1" THICK INSULATION OR INSULATED FOR THE FIRST FIVE FEET OF PIPE CLOSEST TO THE WATER HEATER, OR WHICHEVER SHORTER LENGTH IS IN UNCONDITIONED SPACE. TITLE 24 CAC

48.) CONTRACTOR TO PROVIDE TO THE BUILDING OWNER A COMPLETED CEC FORM CF-6R FORM TO THE RESIDENT FOR A FINAL INSPECTION. IT IS UNDERSTOOD THAT NO FINAL INSPECTION WILL BE MADE UNTIL THE FORM IS SUBMITTED.

49.) THE BUILDER SHALL PROVIDE THE OWNER, OCCUPANT WITH A LIST OF THE HEARING, COOLING, WATER HEATING AND LIGHTING SYSTEMS AND CONSERVATION OR SOLAR DEVICES INSTALLED IN THE BUILDING AND INSTRUCTIONS ON HOW TO USE THEM EFFICIENTLY.

50.) EXTERIOR LANDINGS SHALL HAVE A MINIMUM SLOPE OF 1% AND SHALL NOT BE MORE THAN 7.75" BELOW TOP OF THRESHOLD.

51.) PROVIDE FIRESTOPPING AROUND OPENINGS, VENTS, PIPES, DUCTS, CABLES AND WIRES THAT AFFORD PASSAGE OF FIRE AT CEILING AND FLOOR LEVELS PER CRC SECTION R302.11. OPENING TO BE SEAL WITH 2" NOMINAL LUMBER, BATTS OR BLANKETS OF MINERAL WOOL OR GLASS FIBER, 1/2" GYPSUM BOARD OR 1/4" CEMENT BASED MILLBOARD.

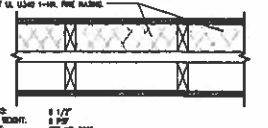
GA FILE NO. WP 3570

GENERIC, 1 HOUR RWC, #5 OR #6 STC 50/60

ONE LAYER 5/8" TYPE 'X' GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED PARALLEL OR AT RIGHT ANGLES TO EACH SIDE OF DOUBLE ROW OF 2X4 WOOD STUDS @ 16" O.C. ON SEPARATE PLATES 1" APART WITH 6d COATED NAILS 1 7/8" LONG, 0.0915" SHANK, 1/4" HEADS @ 7" O.C.

JOINTS STAGGERED 16" ON OPPOSITE SIDES. HORIZONTAL BRACING REQUIRED AT MID HEIGHT (LONG BEARING).

PROVIDE & INSTALL 3 1/2" THICK WOOD Thermo BATT INSULATION (ONE SIDE ONLY) FOR SOUND ATTENUATION. STC=54, TEST NO. GCT148 RWC TEST UL U340 1-HR. RWC RATING.



THICKNESS: 6 1/2"
APPROX. WEIGHT: 8 PSF
FIRE TEST: SEE WP 3020
GA. FB.318-4, 6, 6-17-92;
UL E2717-20, 1-10-96;
UL X348-52, 3-13-68,
UL, DESIGN U305
SOUND TEST: ULC DESIGN W361)
ESTIMATED

1 HR. RATED CONSTRUCTION NOT TO SCALE

1 PARTY WALL CONSTRUCTION - PLAN VIEW

WALL LEGEND

NEW 2x4 O.F.#2 @ 16" O.C. (8" Top Plate or transfer to ceiling)

NEW 2x4 O.F.#2 @ 16" O.C. (Fitted fire wall to underside of roof sheathing)

NEW 2x6 O.F.#2 @ 16" O.C. (8" Top Plate)

RICK ROWLAND
Residential Design and Remodels
RICK ROWLAND, Owner
P.O. Box 000
Missouri, CA 00000
PH.: (000) 000-0000
email: rowland00@gmail.com

No.	Date	Description
1	00/00/00	Architect

RENEE MORENO
000 Missouri Court
Livingston, CA 00000
PH.: (000) 000-0000
Job Site: 000 0th Street

Date: MAY 2021

Scale: AS SHOWN

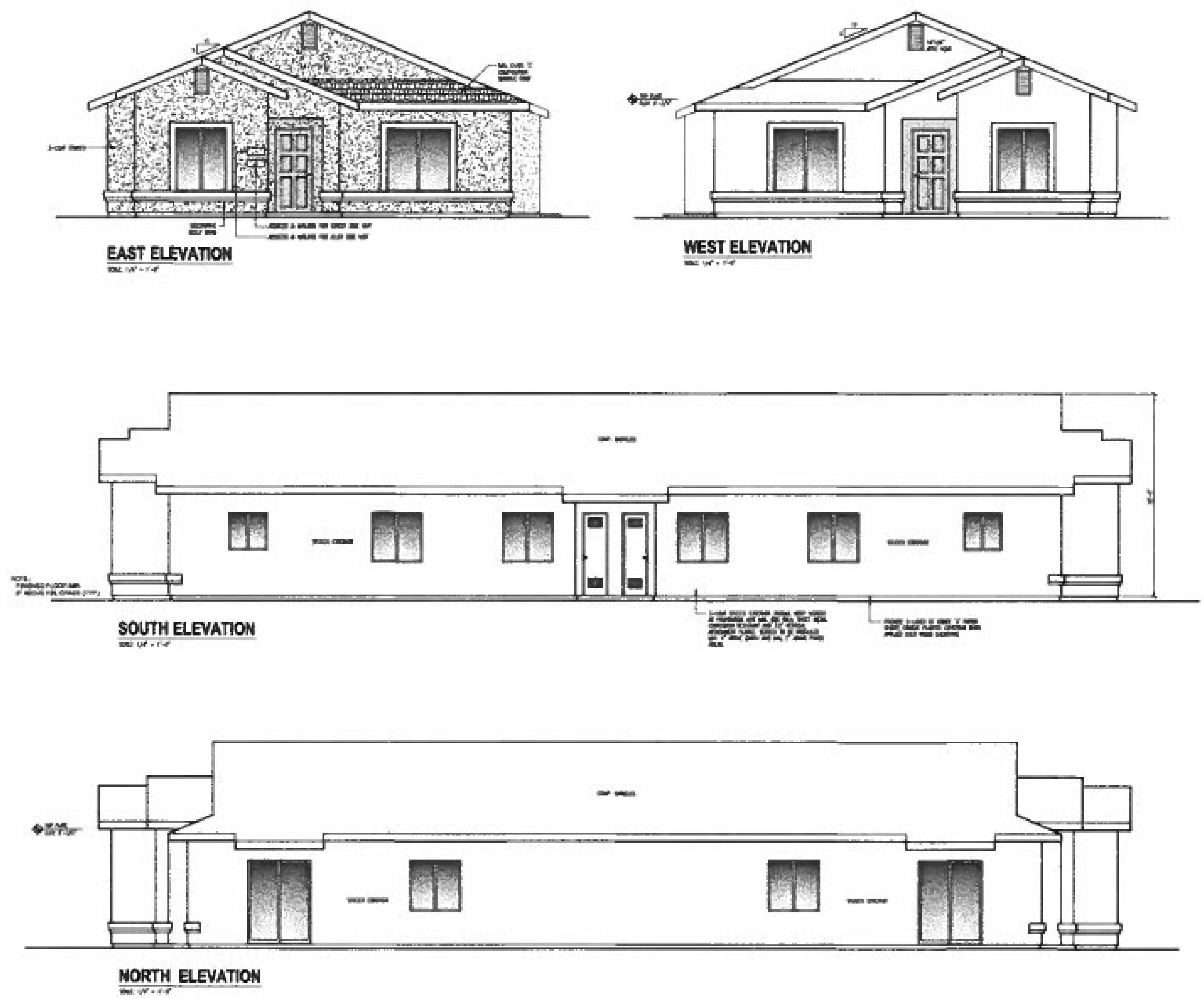
Drawn By: RICK

File Name: MORENO.ZIP

FLOOR PLAN

30

A1.0



RICK ROWLAND
Residential Design and Remodels

RENEE MORENO

Date: MAY 2021
Scale: AS SHOWN
Drawn by: RICK
File Name: MORENO.21P

ELEVATIONS

A2.0

Attachment 4

Exterior Color

Agenda Item #: 7.B.
Meeting Date: **August 9, 2022**
Report Date: August 5, 2022

CITY OF LIVINGSTON PLANNING COMMISSION
STAFF REPORT

CITY FILE NUMBER: Site Plan and Design Review Application No. 2020-02 and Conditional Use Permit Application No. 2020-02 – SGM Moonglo, Inc. Truck Stop Complex – Moonglo. A request to develop a truck stop travel center on an 18.9-acre property zoned C-3, Highway Service Commercial District and PF, Public or Quasi-public Facilities District.

OWNER: SGM Moonglo, Inc. Attn: Goldy Singh
19898 Avenue 24
Chowchilla, CA 93610.

APPLICANT: Hawkins and Associates Engineering Inc.
Attn: Rod Hawkins
436 Mitchell Road
Modesto California, 95354

PROJECT LOCATION: The 18.9-acre project site is located on three parcels southeast of the intersection of Campbell Boulevard and Hammatt Avenue in northeastern Livingston, refer to Attachment 1 – Project Location and Vicinity Map.

ASSESSOR'S PARCEL NO.: 023-070-012: 1.64 acres (storm drain basin easement only –underlying fee lies with property owner.)
023-070-013: 8.56 acres
023-070-014: 0.09 acres
023-060-010: 8.61 acres

PROPOSED ACTION: Consider the following three actions:

1) Adoption of Planning Commission Resolution 2022-06, adopting the Initial Study / Mitigated Negative Declaration and a Mitigation Monitoring/Reporting Program;
2) Adoption of Planning Commission Resolution 2022-07, recommending to the City Council, approval of Site Conditional Use Permit Application No. 2020-02;
3) Adoption of Planning Commission Resolution 2022-08, recommending to the City Council, approval of Site Plan and Design Review Application No. 2020-02 – SGM Moonglo, Inc. Truck Stop Complex – Moonglo, including the site plans, floor plans, and elevations submitted to develop a truck stop travel center in two phases on an 18.9-acre property on three parcels located southeast of the intersection of Campbell Boulevard and Hammatt Avenue

PREPARED BY: Miguel Galvez, Contract City Planner

****

LOCATION CHARACTERISTICS:

Property Size:	Three legal parcels. (Approximately 18.9 acres)
Existing Land Use:	The project site is mostly flat and undeveloped. A storm water basin is currently developed on the western portion of the property, which is provided under a utility easement to the City of Livingston for retention of storm water flow from Hammatt Avenue and Campbell Boulevard street right-of-ways.
1999 General Plan Designation:	HC, Highway Commercial, SC, Service Commercial and PF – Public Facility (Attachment 2 – General Plan Map)
Existing Zoning:	C-3, Highway Service Commercial and PF, Public or Quasi-Public Facility (Attachment 3 – Zoning Map)
Street Access:	Campbell Boulevard

Surrounding Land Uses:

To the south:	State Highway 99.
To the west:	Vacant commercially C-3 zoned property, Hammatt Avenue and overcrossing.
To the north,	Across Campbell Boulevard: various M-1 industrially zoned properties, some of which are developed with industrial uses and some are vacant.
To east:	Across Campbell Boulevard: vacant commercially zoned C-3 property.

PROJECT DESCRIPTION:

The owner and applicant propose to develop approximately 18.9 acres of currently vacant property as a travel center that would serve trucks and passenger vehicles, primarily those traveling on nearby State Route (SR) 99. The applicant proposes to develop a range of truck and passenger car travel-oriented commercial uses on the site in two phases. See Attachment 4, Project Site Plan; Attachment 5, Project Landscape Plan; and Attachment 6, Project Elevations and Floor Plans.

Phase 1 proposes development of a 13,030 square foot central building with a convenience store and two quick-serve restaurants, along with restrooms and showers for travelers and fueling stations for passenger vehicles. A fuel dispensing area is proposed which would be covered by a 9,720 square foot canopy. Four above ground storage tanks would be installed south of the main building near the Freeway right-of-way. The proposed site development would include parking for passenger vehicles and trucks, along with recreational vehicle parking. A drive-thru lane would be provided for one of the quick serve restaurants in the Central building.

In addition, in the area east of the central building, a truck service establishment would consist of a diesel fuel dispensing area, a Certified Automated Truck (CAT) scale, and a 7,200 square foot building that would accommodate both a tire center and a future quick-serve restaurant (under phase 2).

The remainder of the Phase 1 area would include circulation aisles and development of parking areas, including drive-thru aisles for the automobile and truck fueling areas. A total of 86 parking spaces would be available for passenger vehicles in the travel center area, along with four spaces for disabled persons. Ten additional spaces would be provided for recreational vehicles, along with a dump station along the southern boundary of the project site for disposal of sewage. A total of 127 parking spaces would be available for commercial trucks in the truck service area. Site access would be provided by five proposed driveways off Campbell Boulevard. Three of these driveways would provide access to the truck service area, while the remaining two driveways would provide access primarily for passenger vehicles.

Other features of the Phase 1 include a fenced dog park and a recreational vehicle dump station, located south of the travel central building.

The project would include frontage improvements along Campbell Boulevard in accordance with City standards for a four-lane 110 foot wide Minor Arterial. This would include two vehicle lanes approximately 12 feet in width in each direction, for a total of four lanes. It would also include a median left-turn lane approximately 16 feet in width, and two bike lanes approximately eight feet in width, one on each side of the road. Approximately 15 feet on each side of the improved Campbell Boulevard would be used for pedestrian pathways and landscaping.

The project proposes the relocation of an existing detention basin from the western portion of the project site to the southeastern corner of the property. The relocated basin will be sized as approved by the City Engineer to replace the capacity of the existing storm water detention basin and to accommodate additional storm water runoff generated by proposed development of the project site.

The project would install new water and wastewater lines connecting to existing City facilities. The project water system would connect to the City system in two places: an existing line beneath adjacent Hammatt Avenue and the other at an existing line beneath Dwight Way to the east. The project's wastewater line would connect to an existing main beneath Dwight Way to the east.

Phase 2 of the project proposes the development of two new 2,800 square foot quick-serve restaurants, with associated circulation and parking in the western portion of the site. A third quick-serve restaurant would be located in the eastern portion of the site in the tire center building. Each quick-serve restaurant west of the central building would have a drive-thru lane and required circulation and parking, including 40 passenger vehicle parking spaces, 6 compact automobile spaces, and 2 spaces for disabled persons. An additional driveway off Campbell Boulevard would be installed to provide access to this portion of the development.

The project would be landscaped in accordance with City standards. A preliminary landscaping plan for the project site is illustrated on Attachment 5- Project Landscape Plans, Figures L.0.1, L.0.2 and L.0.3. Street trees would be planted along the Campbell Boulevard site frontage, and an evergreen hedge with large-spreading trees would be installed along the SR 99 frontage. Other trees and shrubs would be installed throughout the development. A lawn would be installed in the dog park area. The landscape and associated irrigation system would be designed to comply with the City's Water Efficient Landscape Ordinance.

ANALYSIS:

Except for the storm water detention basin, the property is vacant and is properly General Planned and Zoned for the proposed land uses. The proposed land uses under phase 1, as proposed and conditioned, meet the development standards in the City's Zoning and Development Codes. The proposed development meets the height, setback and lot coverage requirements. The parking required for gas stations is 1 per employee (5 at maximum shift) and for a restaurant is 1 space for every 50 square feet of net floor area for dining and waiting. The final net dining area of each of land uses will be confirmed at time of the building permit application.

The preliminary landscape plan submitted shows a variety of trees, shrubs, and ground cover to be used for this Project. City staff will review the final plant materials and will verify that the proposed plants are drought tolerant and consistent with the types of plants the City has allowed and are compliant with the Water Efficiency Landscape Ordinance.

A project signage plan has not been submitted. A Condition of Approval will be included to allow staff to administratively approve proposed signage in conformance with the City Sign Regulations (LMC Title 4

Building Regulations, Chapter 2 Sign Regulations.

Exterior lighting is not addressed, leading staff to recommend a Condition of Approval to require lighting to be shielded and focused on the building and parking areas. The City has a Design Guide applicable to all new development. Staff has compared the proposed new building's design and colors, as described above, with the Design Guide. The overall design of the new building appears to be consistent with the Design Guide in terms of being compatible in scale with the surrounding area and providing visual interest.

Staff referred this proposal to various departments and agencies for comment and possible conditions for approval. The City Engineer responded with a revised memo dated August 2, 2021, with a list of recommended Conditions of Approval for the Site Plan and Design Review and Conditional Use Permit applications. This memo is included in the attached Resolution of Approval as Conditions. The vast majority of these Engineering Conditions are standard Conditions required by City and State rules and regulations.

Also required by the City, consistent with all other new development, are Conditions requiring payment of applicable development impact.

ISSUES

1. Public Facility Land Use Designation. The western portion of the project site is zoned as PF, Public or Quasi-public Facility and it also has a General Plan designation of PF, Public Facility. Commercial uses are not permitted in the PF zoning district. Phase 2 of the project proposes two quick service restaurants, which are prohibited in the PF zoning district. Rezoning this area from PF to a C-3 zoning district will need to be completed prior to development of any commercial land uses on this portion of the project. This action will also require a general plan amendment. Neither of these actions are included in the current project request or addressed in the environmental assessment for this project. A Condition of Approval will be included to require completion of a rezoning and general plan amendment from PF to C-3 and Highway Commercial respectively before development of Phase 2 of the project designated as PF can commence.

2. Storm Water Master Planning. The subject property currently contains a storm water basin that collects storm water runoff from adjacent streets as well as from the current property. A regional or neighborhood master plan for identifying a comprehensive storm water collection and discharge system for this area has not been developed. The lack of a comprehensive plan results in each property developing an individual storm water collection and detention or retention system. Without an adopted Storm Water Master Plan adopted, individual development projects are required to devote portions of their property address storm water runoff. A regional storm water collection system enables properties to address local flooding on a collective basis, while also increasing the amount of land that can be developed. There is an opportunity to develop and adopt a regional storm drain basin to serve this neighborhood. Staff will consider alternatives in consultation with applicant and consider amending the project to participate in a regional storm water basin, if mutually acceptable.

   Unless a new regional storm water basin is developed and approved, the property's existing storm water basin is proposed to be filled-in with soil and a new storm water basin constructed on the eastern portion of the property. The new basin is expected to continue to serve the adjacent streets as well as the subject site. Although the storm water basin will serve both public and private areas, a new public easement for basin purposes will be required before the existing basin and easement can be abandoned. The design of the current basin will require incorporation of a service access road to maintain the bottom of the basin. A Condition of Approval will be included to require the development and dedication of a public easement for the new storm water basin as approved by the

City Engineer. The property owner will be responsible for dedicating (if needed) a new utility easement and for maintenance responsibilities of the private storm drain basin.

3. Signage Plan. The development application did not include a signage plan for the project site. The City's Sign Regulations for commercial zone districts (Livingston Municipal Code (LMC) Section 4-2-9-2) as well as freeway oriented signs (LMC 4-2-10) C-3 shall apply to this development. A Condition of Approval is included to require the developer to submit a sign plan for the site. Signage to be installed in compliance with LMC 4-2 Sign Regulations as approved by the City's Planning Director.

4. Lot Line Adjustment. The applicant applied for and received approval of a lot line adjustment application. On November 10, 2020, the Minor Subdivision Committee of the City of Livingston approved Lot Line Adjustment Application No. LLA 2020-02. The LLA reconfigured three parcel boundaries, one of which was bisected by Campbell Boulevard. The LLA would result in reconfiguring the lots so they would not extend over Campbell Boulevard. The LLA has not been recorded. A Condition of Approval will be included to require that LLA No. 2020-02 be perfected before a building permit can be issued for any portion of the current project.

5. Fire Suppression. The project was routed to Cal Fire, but no comments have been received to date. California Building and Fire Code establishes minimum standards for the protection of life and property by increasing the ability of a building to resist intrusion of flame and burning embers. Building permits required as a result of the proposed project will be reviewed the City's Building Permits staff and contracted Fire Prevention staff to ensure all State of California Building and Fire Code requirements are met prior to construction. The Project will be conditioned to meet all current fire and building code, including provision of emergency personnel access and fuel spill containment protocols as approved by the City Fire Chief.

   Installation of an OptiCom system will be conditioned and addressed on a proportionate, fair share basis in the proposed Conditions of Approval, as required by the City Fire Department. The staffing, equipment, and funding needs of the Fire Department are addressed in the proposed Condition of Approval requiring the Project site to annex into Community Facilities District (CFD) 2017-01 (Public Services).

6. Water Line Improvements. The applicant proposes to extend City water lines along Campbell Avenue to serve the project site. The City Engineer is requiring that the water lines be extended and connected to existing water line on Dwight Avenue. The looped water system helps to prevent stagnation of water at a dead end line, as well as it will help maintain a uniform water pressure throughout the City's water system. A Condition of Approval is included to fulfill this requirement. The applicant has expressed concern about the timing and cost associated with the extending the City water line to achieve a looped system.

7. Traffic Impacts and Mitigation Measures. A transportation impact analysis for the Moonglo Truck Stop project was prepared by KD Anderson and Associates and submitted on July 25, 2020. The adequacy of site access and traffic impacts was evaluated to ensure safe traffic operation under long term conditions and to address improvements found to be needed at the adjoining Hammatt Avenue and Campbell Boulevard intersection. On May 23, 2022, Caltrans accepted the traffic impact analysis for the project.

   Truck Access. The project will be required by the City to make frontage improvements along Campbell Blvd that are consistent with the long term plan for this road (i.e. 5-lane section), and the project's three truck driveways are very broad. Within that context the final layout of site driveway will need to confirm that STAA* truck turns can be accommodated without encroaching into

opposing travel lanes.

[* Information note: *The Surface Transportation Assistance Act (STAA) establishes a national network of highways designated for use by large trucks. On these highways, federal width and length limits apply. Trucks that are within the width and length limits specified in the Act are now referred to as "STAA" trucks.]*

Access at Industrial Drive. The project proposes automobile access at a driveway on Campbell Boulevard at a location opposite Industrial Drive. By aligning the driveway and intersection potential conflicts between opposing vehicles can be minimized. Left turn lanes will need to be created on Campbell Blvd as part of project frontage improvements. The final design of intersection improvements will need to accommodate the concurrent turning requirements of trucks accessing Industrial Drive and automobiles - RV's entering and exiting the project.

Access near Hammatt Avenue. The western driveway is located about 300 feet from Hammatt Avenue (centerline to centerline) and roughly 210 feet of storage will exist in the left turn lane between the driveway and the crosswalk anticipated at Campbell Boulevard. the queuing analysis indicates that under mitigated conditions with other approved projects the 95th percentile queues extending back from Hammatt Avenue could be reach 320 feet, including vehicles that might have turned left from the driveway. Under these conditions it is likely that the City will need to prohibit left turns at the western driveway. The Project will be conditioned to have the western most driveway, which will be developed in phase 2, to be right-in and right-out only.

Identified Transportation impacts will be addressed by the following Mitigation Measures:

TRANS-1: The project applicant or successors in interest shall be required to pay fair-share costs of a traffic signal at the Hammatt Avenue/Campbell Boulevard intersection.

TRANS-2: The project applicant or successors in interest shall be required to pay fair-share costs of traffic signals or roundabouts at the Hammatt Avenue intersections with the SR 99 northbound ramps and the SR 99 southbound ramps. The project applicant or successors in interest shall be required to pay fair-share costs of preparing a preliminary Intersection Control Evaluation report to provide a screening assessment of the feasibility of a roundabout or traffic signal at the SR 99 ramps intersections

TRANS-3: The project applicant or successors in interest shall be required to pay fair-share costs of the addition of an eastbound right-turn lane, approximately 200 feet in length, on Campbell Boulevard with right turn overlap phases on the northbound-to-eastbound and eastbound to-southbound movements.

TRANS-4: The project applicant or successors in interest shall install frontage improvements along Campbell Boulevard, including sidewalks, during Phase 1 development of the project site (see Mitigation Measure TRANS-1). Standard pedestrian crossing controls and ADA accessible ramps shall be included in the proposed signalization of the Hammatt Avenue/Campbell Boulevard intersection, and the project shall contribute its fair share to the cost of those features.

TRANS-5: Improvements to the Hammatt Avenue/Campbell Boulevard intersection shall be designed to accommodate STAA trucks, and the project shall contribute its fair share to the cost of those features. Project access shall be designed to accommodate STAA trucks. Phase 1 shall contribute its fair share to the cost of a Caltrans STAA route designation application to be completed by the City and shall contribute its fair share to the cost of improvements needed to accommodate STAA trucks.

Caltrans and the applicant have agreed to these mitigation measures. Caltrans has approved a draft Signalization Plan for the Hammatt Avenue and Campbell Boulevard intersection, see Attachment 7.

GENERAL PLAN

The property has three General Plan land use designations: PF – Public Facility, SC, Service Commercial and HC, Highway Commercial. The 1999 Livingston General Plan included the following Commercial Land Use Objectives and policies.

A. *Ensure the provision of adequate commercial shopping opportunities and office space locations to meet anticipated needs.*

Policy 1. Establish the following commercial land uses designations:

Policy 1.d. Service Commercial designates land for commercial activities in which the function performed is of equal or greater importance than the product traded. The Highway Commercial subcategory allows Service Commercial uses, which, due to space requirements, the proximity to the highway, or the distinctive nature of their operation, are not compatible with or not usually in other commercial designations.

Policy 2. Neighborhood Commercial sites should be located at or near the intersection of collector and/or arterial streets with a minimum of overlap with other existing or planned neighborhood commercial uses. Only one neighborhood commercial development may be permitted at any one intersection. Such developments should also be directly accessible from adjacent residential developments.

Policy 3. Community Commercial uses should be located along major traffic ways in consolidated centers that utilize common access and parking for commercial uses. Strip commercial uses are to be discouraged. Adequate pedestrian links to residential areas shall be required.

The C-3 Highway Service Commercial district correlates to and fulfills the Service Commercial and Highway Commercial General Plan designations.

However, the C-3 Highway Service Commercial district does not correlate with the General Plan designation of Public Facility and an amendment to the General Plan land Use Map will be necessary to allow the proposed uses under Phase 2 to be developed. A Condition of Approval is included to require a rezoning and General Plan Amendment from PF to HC, Highway Commercial to be completed before development can be approved on Phase 2.

Hammatt Avenue and Campbell Boulevard are designated as Arterial Streets in the Circulation Element of the Livingston General Plan Livingston. The Circulation Element of the City General Plan includes a Bikeways Plan that designates a bikeway along Campbell Boulevard from Hammatt Avenue to Winton Parkway. Campbell Boulevard between Winton Parkway and the eastern City Limit line is designated as a Truck Route. Hammatt Avenue, between Walnut Avenue and Highway 99 is also designated as a Truck Route.

The City of Livingston Circulation Element of the General Plan – Livingston, California (Livingston 1999) designates LOS C as their minimum standard:

"The City designates Service Level 'C' as defined in the Highway Capacity Manual (published by the

Transportation Research Board of the National Research Council) as the minimum desirable service level at which arterial streets and collector streets should operate. All new facilities in these categories shall be designed to operate at this level or better for a period of at least 20 years following their construction."

Unlike City intersections, Caltrans considers LOS D an acceptable LOS for ramp junctions. Moreover, SB 743 seeks to balance traffic impacts and mitigation with statewide GHG emission reduction goals, by eliminating street and intersection capacity as the principal means for evaluating transportation impacts. Section 15064.3 states that vehicle miles traveled (VMT) is the preferred method for evaluating transportation impacts, rather than the commonly used LOS. While a quantitative analysis of VMT is preferred, a qualitative analysis may be used if existing models or methods are not available to estimate VMT for the project being considered.

With Phase 1, the addition of project-generated automobile and truck traffic onto the adjacent street system would result in two intersections operating with delays that are indicative of LOS F, and one intersection operating at LOS D. Peak hour traffic signal warrants will be satisfied both time periods at the Hammatt Avenue/Campbell Boulevard intersection and during one time period at the two SR 99 ramp intersections. This is an important traffic impact but not a significant effect under CEQA.

Provisions for transportation system improvements presented as mitigation measures would ensure that traffic conditions would operate to City standards at the deficient intersections, reducing impacts to an acceptable level consistent with the Livingston General Plan as shown in the traffic study. All mitigation measures identified in the project's initial study and a mitigated negative declaration will be incorporated as Conditions of Approval for development of the project.

ZONING ORDINANCE

The property is zoned C-3 and PF, see Attachment 3 – Zoning Map, as such, the Livingston Municipal Code requires all new construction to undergo Site Plan and Design Review consideration by the Planning Commission for a recommendation to the City Council for final consideration. In addition, any proposed restaurant with a drive-in and any gasoline station requires approval of a Use Permit application. Since the applicant is proposing five quick service restaurant, three of which are proposed with a drive through restaurant component as they propose to serve food and drinks from a pass through opening to customers in their vehicle or delivery of food to a diner remaining in their vehicle.

A Site Plan and Design Review application allows the City to evaluate the development proposal to assure compatibility, harmony in appearance with the neighborhood, reduction of any negative impacts, and orderly development of the area.

Use Permits are used primarily to review the location, site development or conduct of certain land uses that generally have a distinct impact on the area in which they are located, and/or are capable of creating special problems for bordering properties unless given special attention. Conditional use permits may be granted by the planning commission. Conditional use permits require a determination of findings and conditions by the planning commission.

In considering an application for conditional use permits, the following criteria shall be considered:

1. 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.

2. A conditional use permit must be considered in relationship to its effect on the general plan for the

area in which it is to be located. The conditional use applied for must be in conformance with the general plan land use map and policies.

3. Findings required for approval shall include:
   (a) The site for the proposed use is adequate in size and shape to accommodate said use and all yards, spaces, walls and fences, parking, loading, landscaping, and other features required by the applicable zoning district.
   (b) The site for the proposed use is served by streets and highways adequate to carry the quantity and kind of traffic generated by the proposed use.
   (c) Public facilities are currently adequate to serve the proposed use or improvements are included in an approved capital improvement plan or otherwise will be complete prior to the issuance of building permits.
   (d) The proposed development is consistent with the general plan. If granted, it should be made subject to those conditions necessary to preserve the general welfare, not the individual welfare, of any particular applicant.

As discussed above commercial uses are not permitted in the PF zoning district. A Condition of Approval is included to require a rezoning of the project's area currently zoned as PF to C-3, Highway Service Commercial to be completed before any development on that portion of the project site can be approved for development.

Dedication of street right-of-way and improvements for the south-half of Campbell Boulevard will be required to meet the 4-lane Minor Arterial street classification (110-foot wide right-of-way divided, with median /left turn lane). A ten foot wide public utility will also be required along the on the property outside of the ultimate right-of-way dedication.

A preliminary landscape plan has been submitted with entitlement application. The final landscaping plan and irrigation system plan will have to be reviewed by a licensed Landscape Architect to ensure compliance with City's Model Water Efficiency Landscape Ordinance. A Condition of Approval is included to meet this requirement.

All new development creates a need for increased public services. To address the increased demand the project site will be required to annex to the City of Livingston Community Facilities District (CFD) No. 2017-01 (Public Services). A Condition of Approval is included to meet this requirement. Annexation to the CFD is handled through a separate process outside of the land use entitlement applications.

ENVIRONMENTAL REVIEW:

The proposed project is a "project" as defined by CEQA and is not exempt from CEQA consideration. The applicant retained the services of an environmental consultant to meet CEQA requirements which are administered by the City. The consultant prepared an Initial Study (IS) and a proposed Mitigated Negative Declaration (MND). These documents were reviewed in detail by City staff and, after City editing, represent the independent analysis and judgment of the City. These documents were circulated to various City departments, other agencies (including Caltrans) and organizations and made available for public review and comment for 30 days starting December 20, 2020, through January 10, 2021, refer to Attachment 8.B, Affidavit of Publication, dated December 20, 2020.

All environmentally related comments received can be mitigated through corrections / changes to the Document or the imposition of Conditions of Approval. Accordingly, staff has prepared a Resolution which adopts the Mitigated Negative Declaration and incorporates all the proposed Mitigation Measures into the project. The City has also prepared a Mitigation Monitoring / Reporting Plan which summarizes all potential impact of the project and the associated mitigation measures. The Mitigation Monitoring /

Reporting Plan also identifies who is responsible for implementing the mitigation measure and who does the follow up with monitoring / reporting, see Attachment 8C, Mitigation Monitoring/Reporting Program.

The Initial Study considered the project's potential for significant environmental effects in the following subject areas:

Aesthetics
Agricultural Resources
Air Quality
Biological Resources
Cultural Resources
Energy
Geology and Soils
Greenhouse Gas Emissions
Hazards and Hazardous Materials
Hydrology and Water Quality
Land Use and Planning
Mineral Resources
Noise
Population and Housing
Public Services
Recreation
Transportation/Traffic
Tribal Cultural Resources
Utilities and Service Systems
Wildfire
Mandatory Findings of Significance

The Initial Study concluded that the project would have significant environmental effects, **but recommended mitigation measures would reduce all these effects to a level that would be less than significant**. As a result, the City has prepared a Mitigated Negative Declaration and notified the public of the City's intent to adopt the Initial Study/Mitigated Negative Declaration. The applicant has accepted all the recommended mitigation measures.

Table 1-1 of the Initial Study includes a summary of environmental impacts and mitigation measures. A copy of Table 1-1 is included in Attachment 8A, Public Review Draft Initial Study/Mitigated Negative Declaration for the Livingston Truck Stop Complex. Briefly, mitigation measures were identified for potential impacts to Cultural Resources, Geology and Soils, Hydrology and Water Quality, Transportation/Traffic, Tribal Cultural Resources and Mandatory Findings of Significance. A Mitigation Monitoring and Reporting Program for this CEQA document is included as Attachment 8C, Mitigation Monitoring / Reporting Program.

Note: Pursuant to California Fish and Game Code Section 711.4, all project applicants subject to the California Environmental Quality Act (CEQA) shall pay a filing fee for each project; therefore, the applicant will further be required to pay $2,548.00 for the California Department of Fish and Wildlife (formerly the Department of Fish and Game) and the Clerk-Recorder filing fee of $50.00 for filing the Notice of Determination for the project. The attached Conditions of Approval ensure that this will occur.

RECOMMENDATION:

Staff is of the opinion that Phase 1 of the proposed use is consistent with that envisioned for this area and will be an asset to the City providing additional fueling and dining options to members of the traveling public. This use is expected to serve a significant number of customers traveling along State Route 99 providing additional jobs, tax revenue and economic development to the City. The development of this prime corner will help to spur development in the immediate vicinity. This Project acts as an economic generator to the City drawing people from outside the City. Staff feels the site layout and buildings, as proposed and as conditioned, complies with all the requirements and standards applicable. The recommended conditions of approval allows staff to administratively review and approve the landscaping, lighting, and signage as these elements of the Project are detailed during the construction phase of the Project. The proposed Conditions of Approval concerning the CFD and roadway improvements represents City Staff's best judgement to address these Project impacts on a fair and proportional basis. As always, City appointed and elected decision makers may arrive at alternate conclusions based on a wide number of

factors including promoting economic development, jobs, and the desire for services. Staff recommends the Planning Commission adopt three separate resolutions:

- Resolution 2022-06, adopting the Mitigated Negative Declaration with its Mitigation Monitoring / Reporting Program; refer to Attachment 8.
- Resolution 2022-07, recommending approval of the Conditional Use Permit (CUP 2020-02) for a gasoline service station; Attachment 9.
- Resolution 2022-08, recommending approval by the City Council of Site Plan and Design Review 2020-02, based on the Findings and Conditions of Approval contained in the resolution; refer to Attachment 10.

ATTACHMENTS:

1. Project Location and Vicinity Map
2. Project General Plan Map
3. Project Zoning Map
4. Project Site Plan
5. Project Landscape Plans
6. Project Elevations and Floor Plans
7. Hammatt Avenue/Campbell Blvd. Draft Signal Layout Plan
8. Planning Commission Resolution No. 2022-06, adopting the Initial Study/Mitigated Negative Declaration for the Livingston Truck Stop Complex, dated December 2020.
   - Exhibit A: Public Review Draft Initial Study/Mitigated Negative Declaration For the Livingston Truck Stop Complex
   - Exhibit B: Affidavit of Publication, dated December 30, 2020.
   - Exhibit C: Mitigation Monitoring / Reporting Program
9. Planning Commission Resolution No. 2022-07, recommending approval of the Conditional Use Permit Application No. 2020-02 to the City Council.
   - Exhibit "A", Conditions of Approval
   - Exhibit "B", 8/2/22 Revised Memo from City Engineer Mario Gouveia
10. Planning Commission Resolution No. 2022-08, recommending approval of the Site Plan and Design Review Application No. 2020-02 to the City Council.
    - Exhibit "A", Conditions of Approval
    - Exhibit "B", 8/2/22 Revised Memo from City Engineer Mario Gouveia

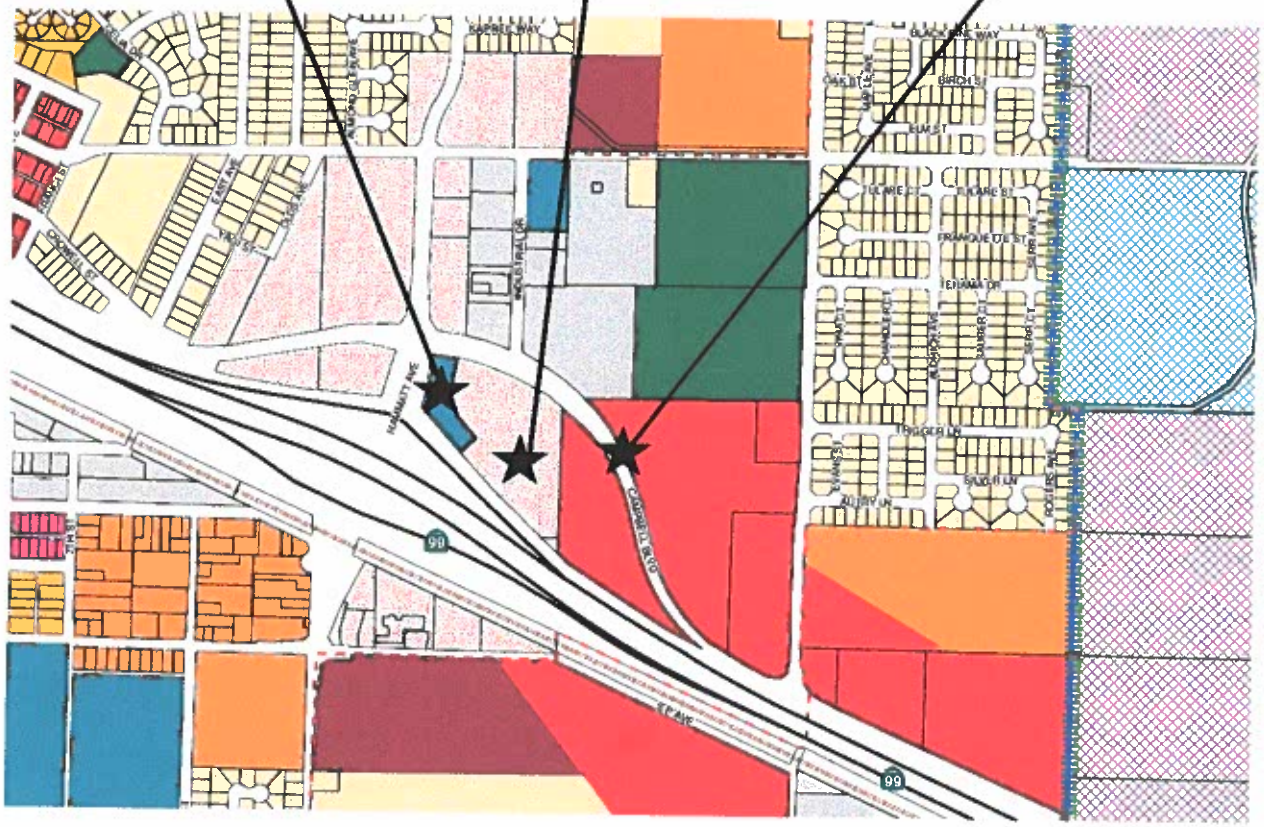
Project Location & Vicinity Map

Site Plan/Design Review 2020-02 & CUP 2020-02

Moonglo Trucking

General Plan: (PF) Public Facility; (HC) Highway Commercial & (SC) Service Commercial

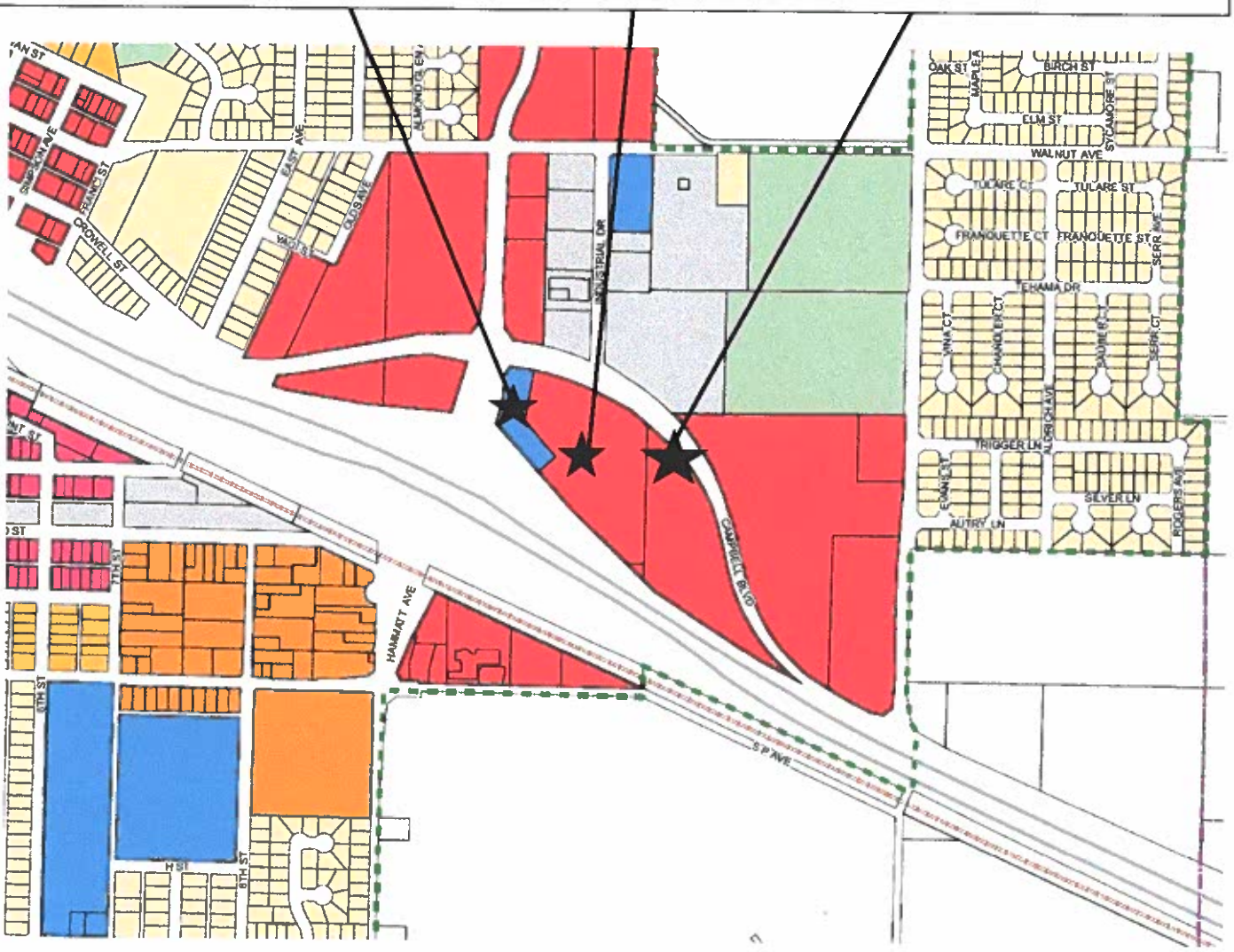
APN's: 023-060-010; 023-070-012; 023-070-013



Site Plan/Design Review 2020-02
& CUP 2020-02

Moonglo Trucking

Zoning: (PF) Public Facility &
(C-3) Highway Service Commercial
APN's: 023-060-010; 023-070-012; 023-070-013

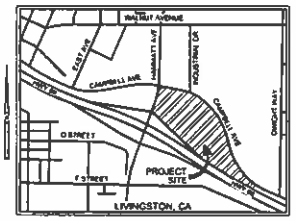


Attachment 4

PLANNING EXHIBITS FOR:

SGM - MOONGLO INC.
PROPOSED TRAVELCENTER

CAMPBELL BLVD, LIVINGSTON, CA 95334

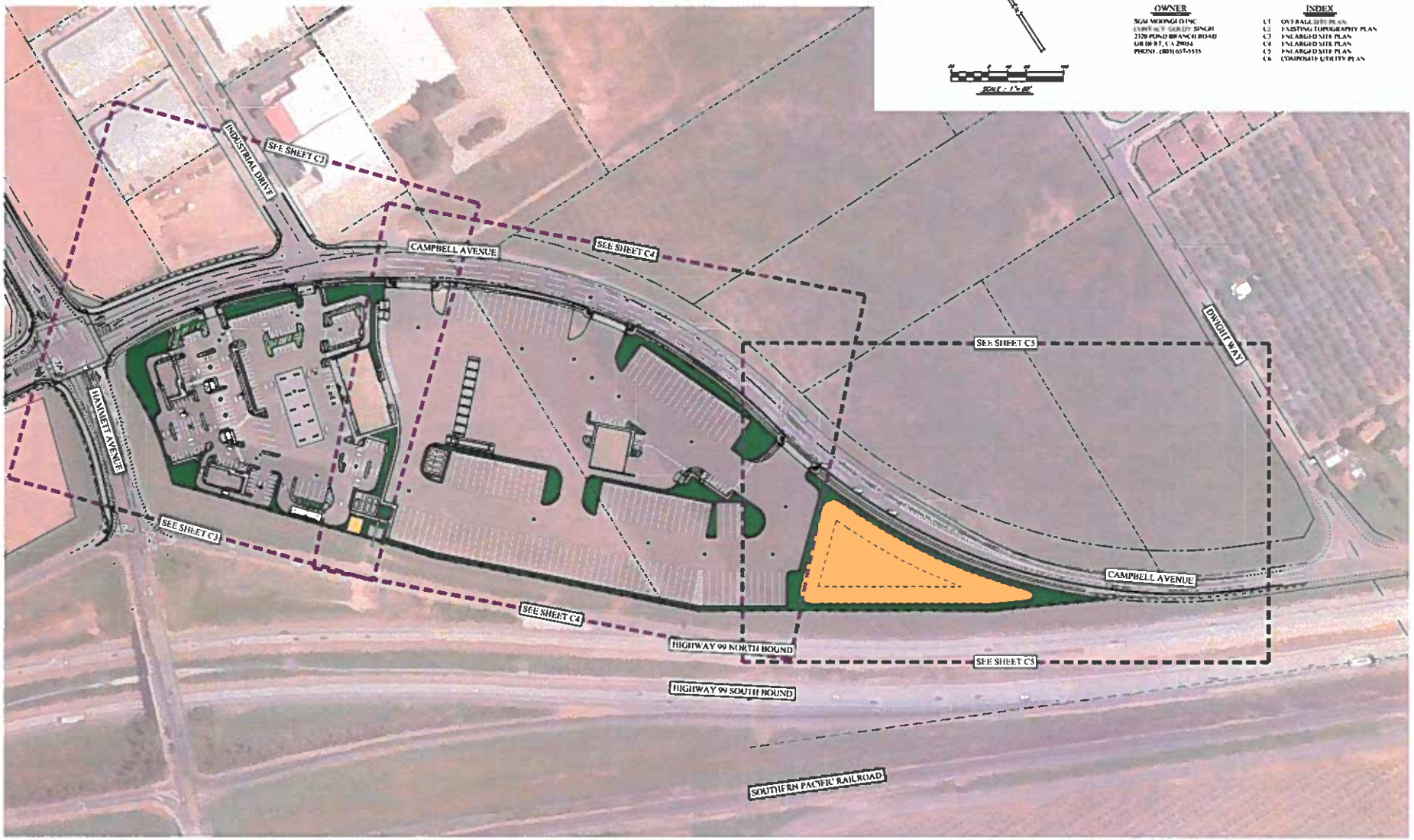


VICINITY MAP

OWNER

SGM MOONGLO INC
SURJEET SINGH SINGH
2320 POND BRANCH ROAD
OLIVEHURST, CA 95961
PHONE: (530) 637-5535

INDEX



HAWKINS & ASSOCIATES ENGINEERING, INC.
436 MITCHELL ROAD
MODESTO, CA 95354
PH: (209) 575 - 4295
FX: (209) 575 - 4295

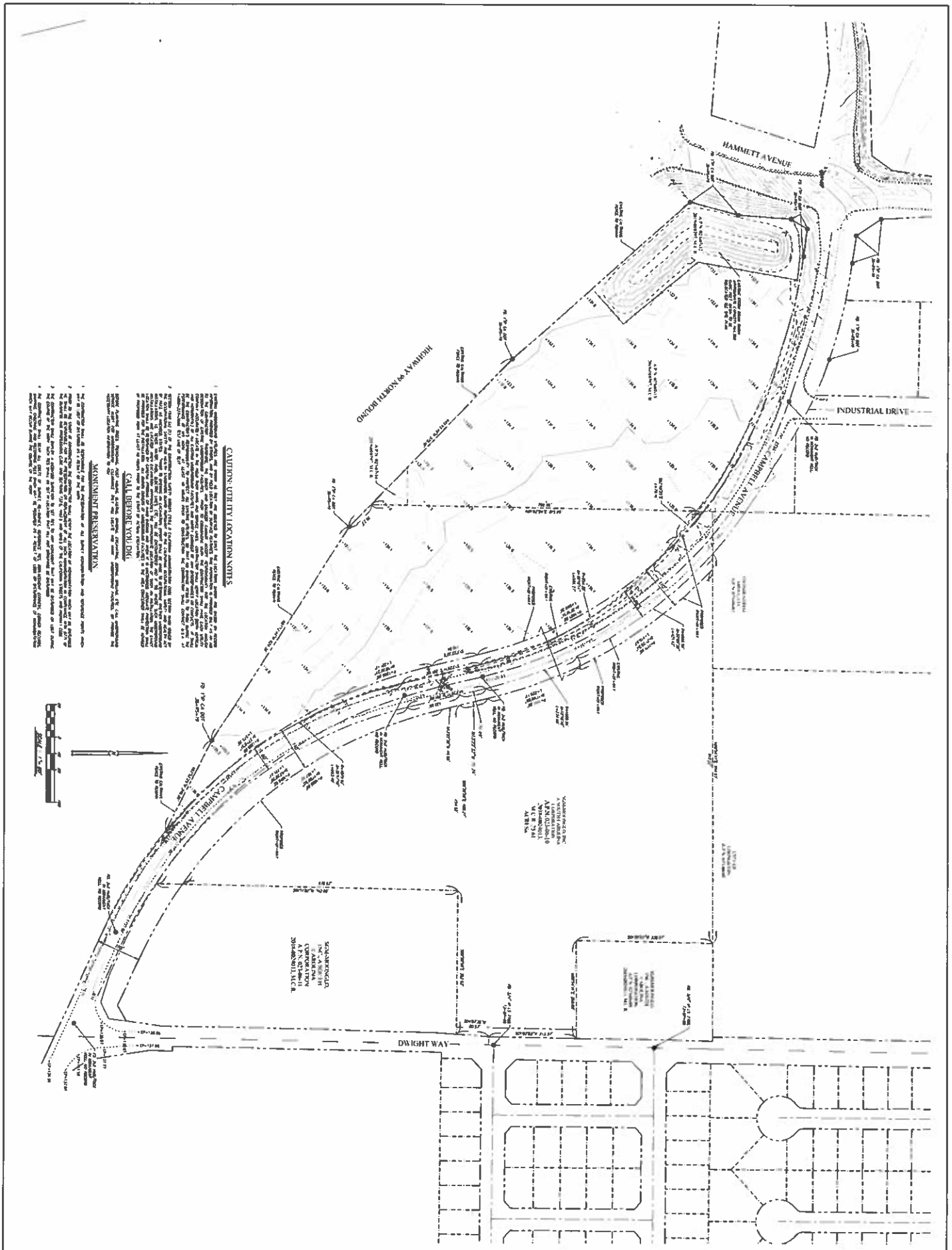
OVERALL SITE PLAN

PLANNING EXHIBITS FOR:
SGM MOONGLO INC.
PROPOSED TRAVEL CENTER
LIVINGSTON, CALIFORNIA

47

PRELIMINARY

SHEET C1
OF 6



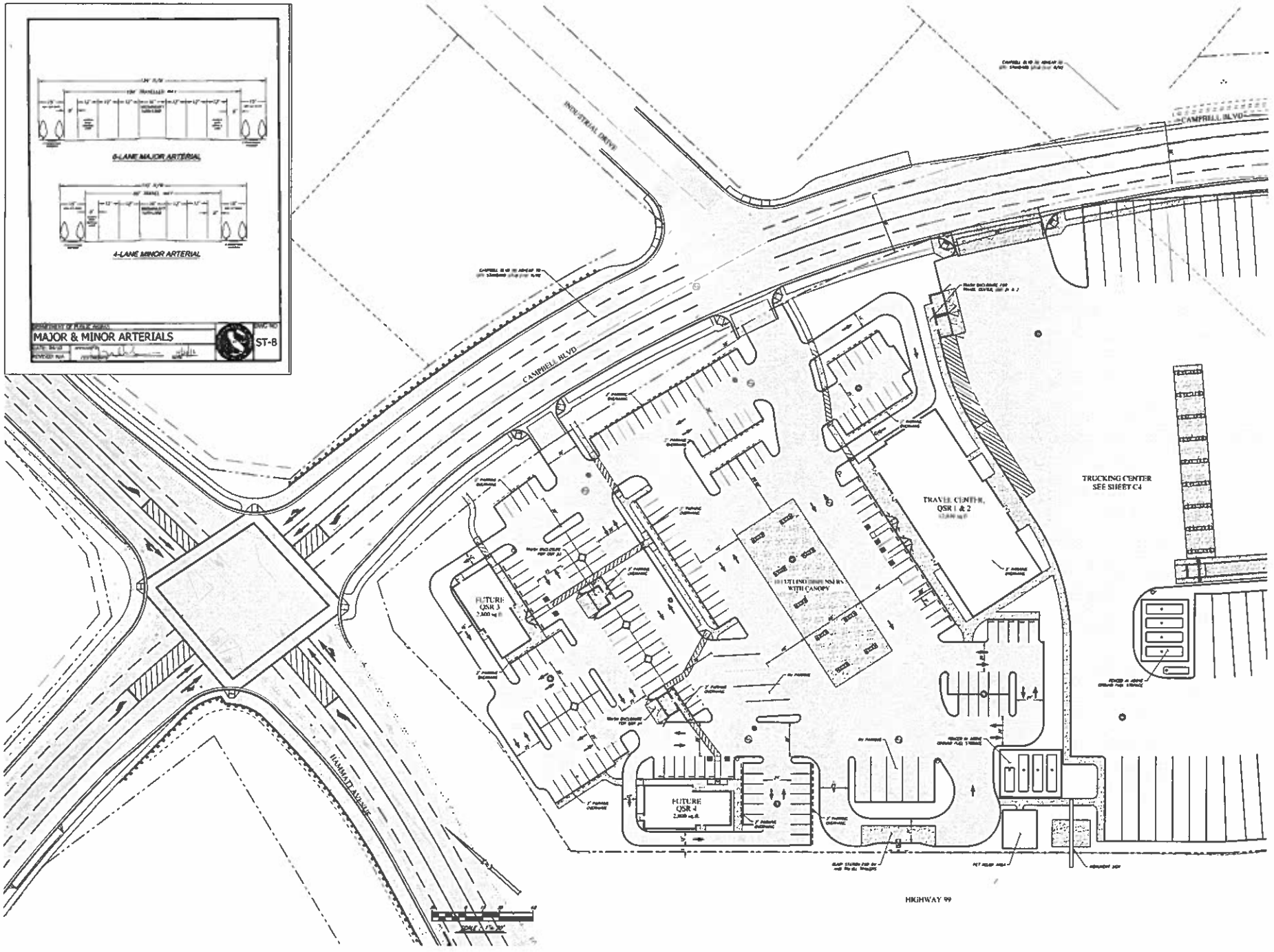
EXISTING TOPOGRAPHY PLAN

PLANNING EXHIBITS FOR:
SGM MOONGLO INC.
PROPOSED TRAVEL CENTER
LIVINGSTON, CALIFORNIA

HAWKINS & ASSOCIATES
ENGINEERING, INC.
436 MITCHELL ROAD
MODESTO, CA. 95354
PH: (209) 575 - 4295
FX: (209) 578 - 4295

PRELIMINARY

SHEET C2 OF 6



HAWKINS & ASSOCIATES ENGINEERING, INC.
436 MITCHELL ROAD
MODESTO, CA 95354
PH (209) 575-4295
FX (209) 575-4295

ENLARGED SITE PLAN

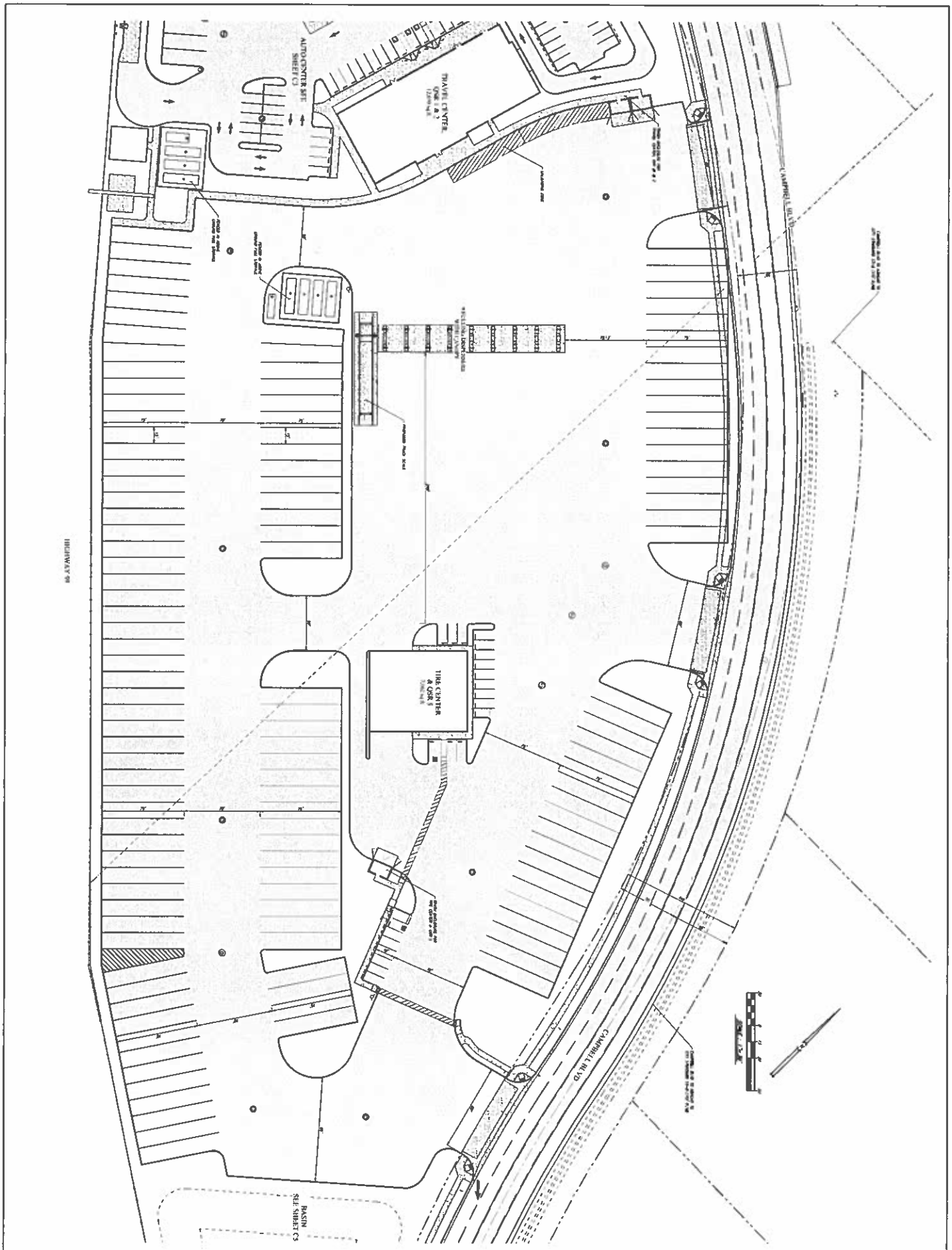
PLANNING EXHIBITS FOR:
SGM MOONGLO INC.
PROPOSED TRAVEL CENTER
LIVINGSTON, CALIFORNIA

49

PRELIMINARY

DATE

SHEET
C3
OF
6



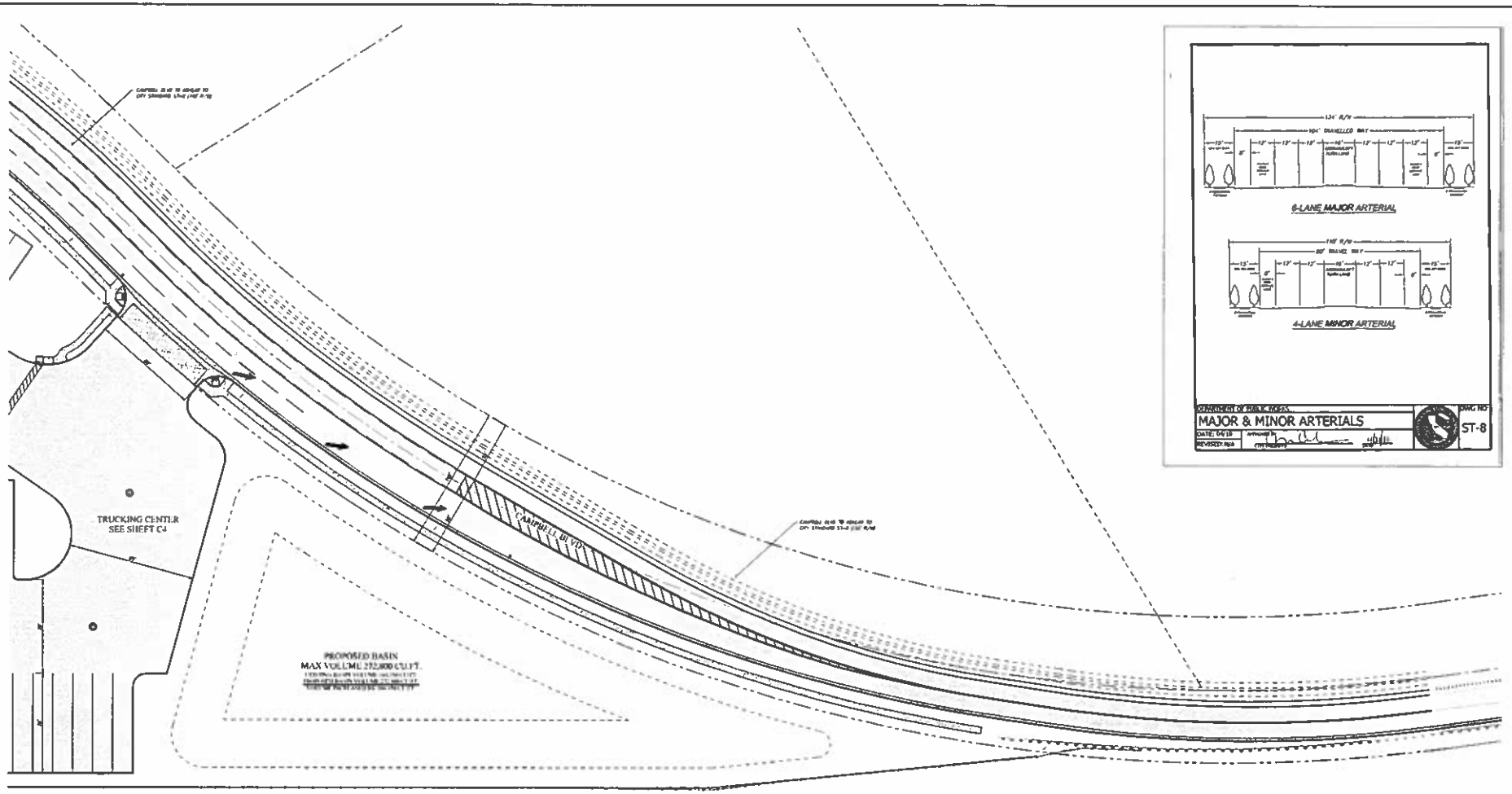
ENLARGED SITE PLAN

PLANNING EXHIBITS FOR:
SGM MOONGLO INC.
PROPOSED TRAVEL CENTER
LIVINGSTON, CALIFORNIA

HAWKINS & ASSOCIATES
ENGINEERING, INC.
436 MITCHELL ROAD
MODESTO, CA. 95354
PH: (209) 575 - 4295
FX: (209) 578 - 4295

PRELIMINARY

SHEET C4 OF 6



HAWKINS & ASSOCIATES
ENGINEERING, INC.
436 MITCHELL ROAD
MODESTO, CA 95354
PH: (209) 575 - 4295
FX: (209) 578 - 4295

ENLARGED SITE PLAN

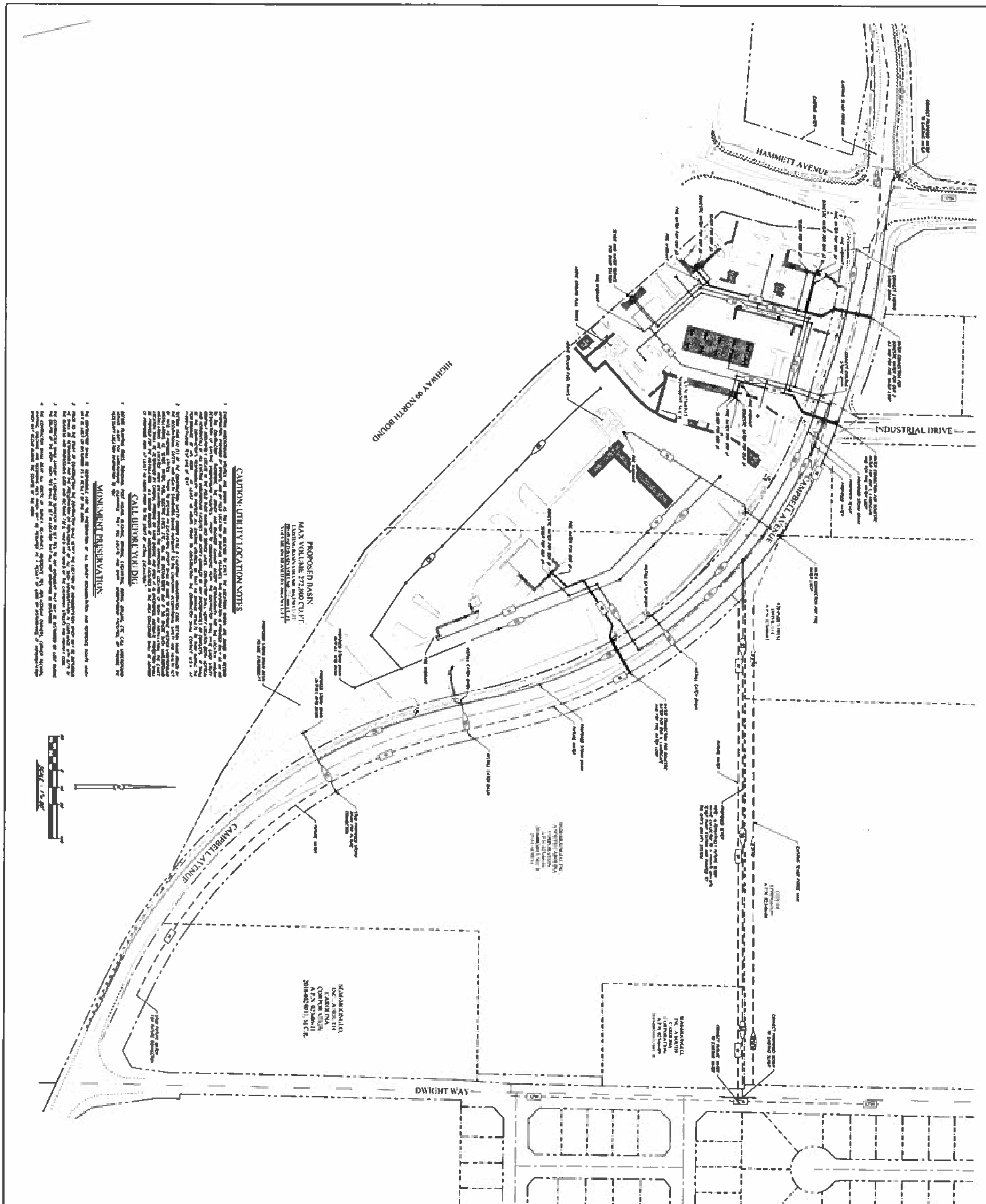
PLANNING EXHIBITS FOR:
SGM MOONGLO INC.
PROPOSED TRAVEL CENTER
LIVINGSTON, CALIFORNIA

51

PRELIMINARY

DATE

SHEET
C5
OF
6



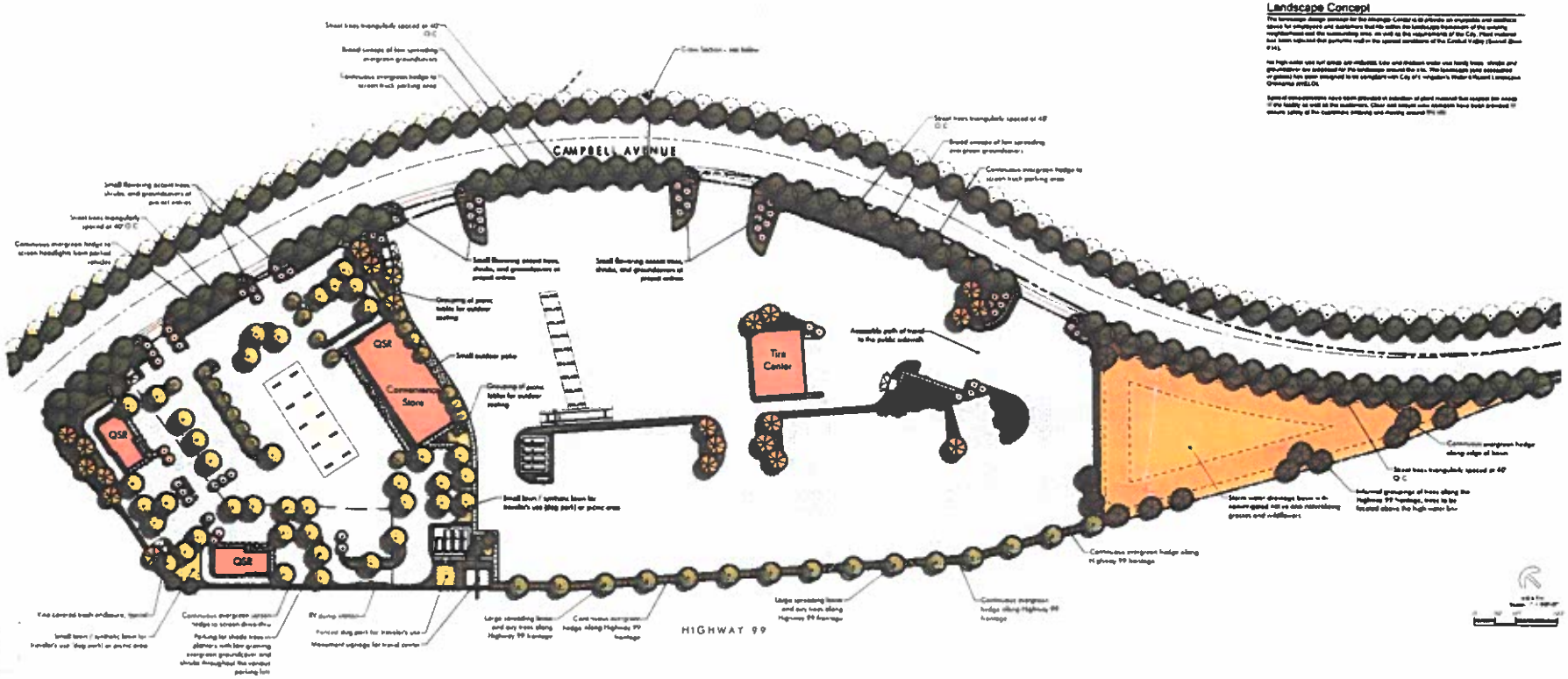
COMPOSITE UTILITY PLAN

PLANNING EXHIBITS FOR:
SGM MOONGLO INC.
PROPOSED TRAVEL CENTER
LIVINGSTON, CALIFORNIA

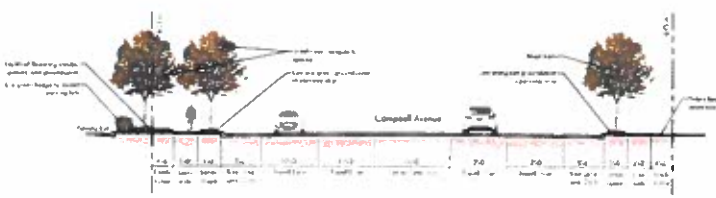
HAWKINS & ASSOCIATES
ENGINEERING, INC.
436 MITCHELL ROAD
MODESTO, CA. 95354
PH: (209) 575 - 4295
FX: (209) 578 - 4295

PRELIMINARY

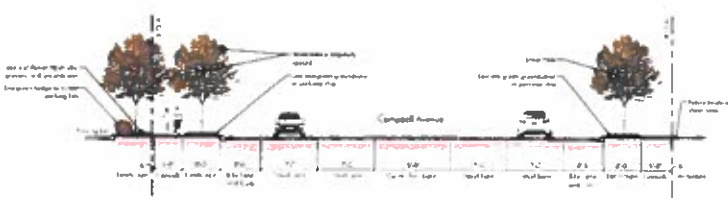
SHEET C6 OF 9



Landscape Concept



Cross Section - Option 1



Cross Section - Option 2

Proposed Trees

Aerial Map

KLA
LANDSCAPE ARCHITECTURE PLANNING

www.kla-ca.com

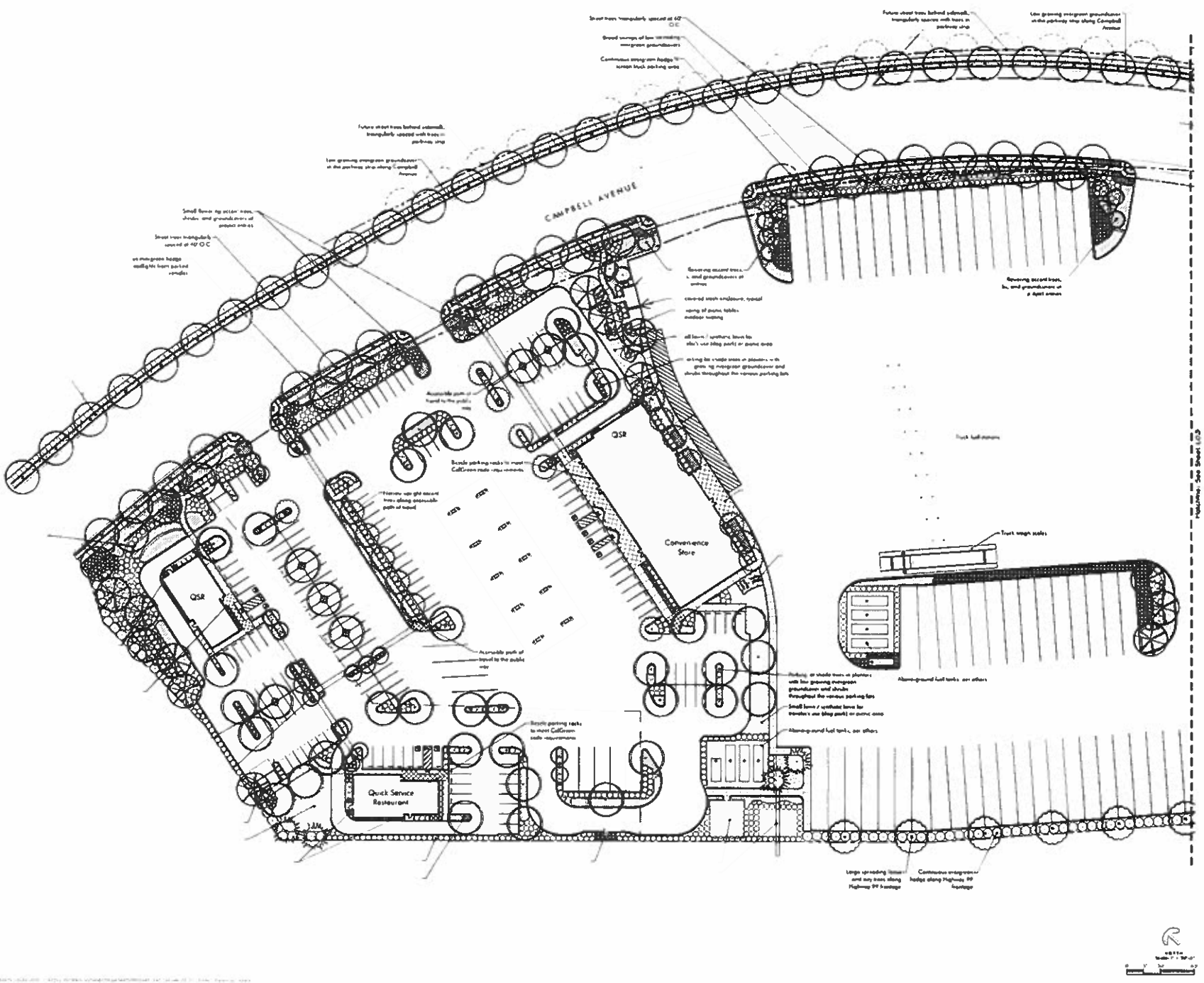
Moongio Center
Livingston CA

Overall Site Landscape Plan

Sheet Number:
L0.1

53

Attachment 5



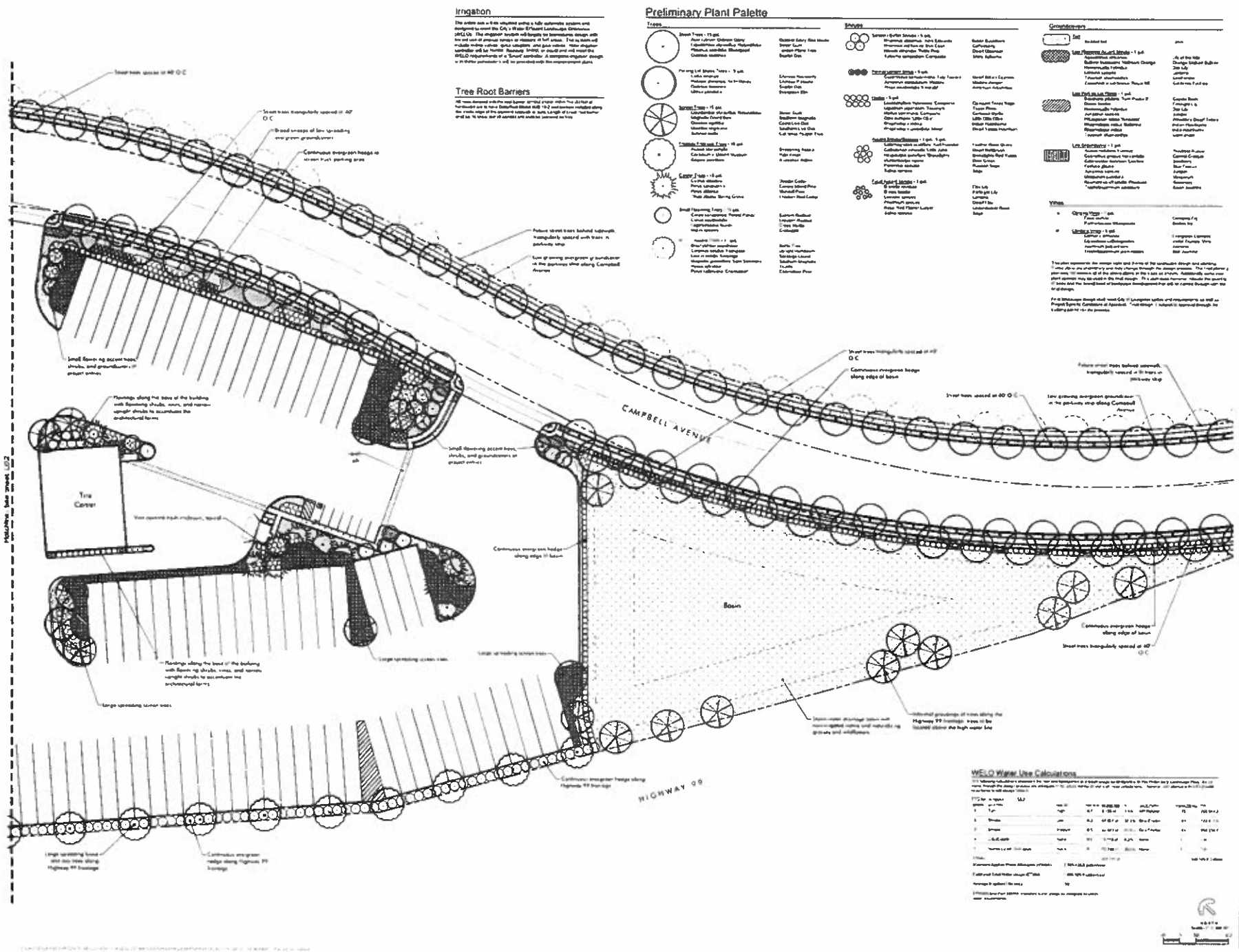
KLA
LANDSCAPE ARCHITECTURE PLANNING

Moongio Center
Livingston CA

SGM Moongio Inc.

Preliminary Landscape Plan

Sheet Number:
L0.2



55

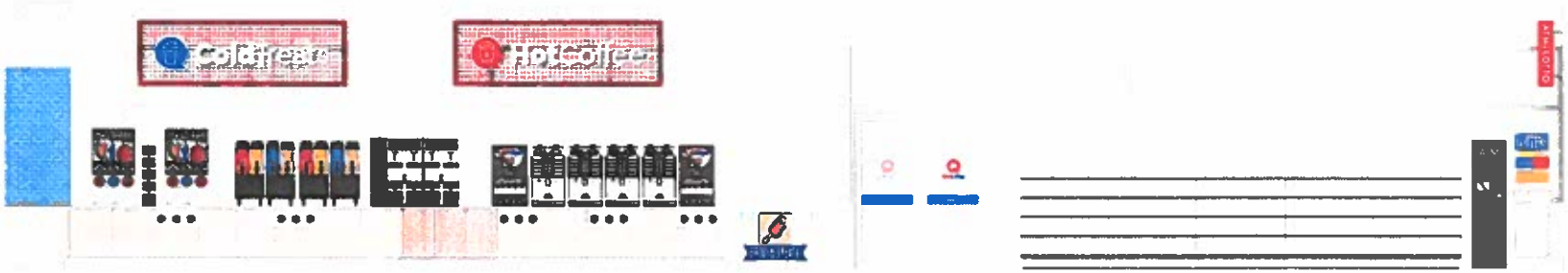
KLA
LANDSCAPE ARCHITECTURE PLANNING

Moongio Center
Livingston, CA

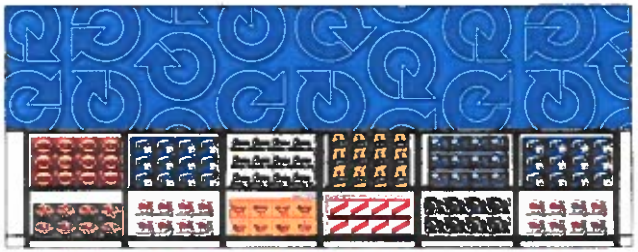
Preliminary Landscape Plan

Sheet Number
L0.3


QuikWay
QuikWay
QuikWay

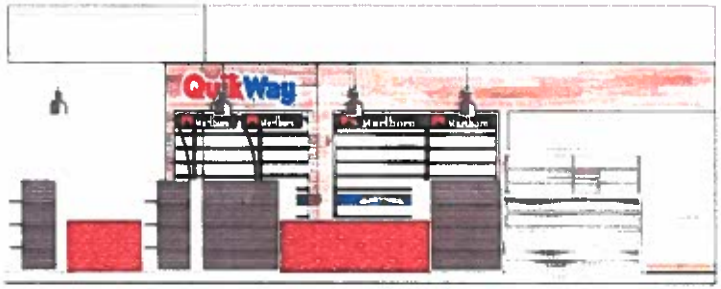

Cold freeze
Hot coffee


THE Q CAVE
ice cold beer in here!



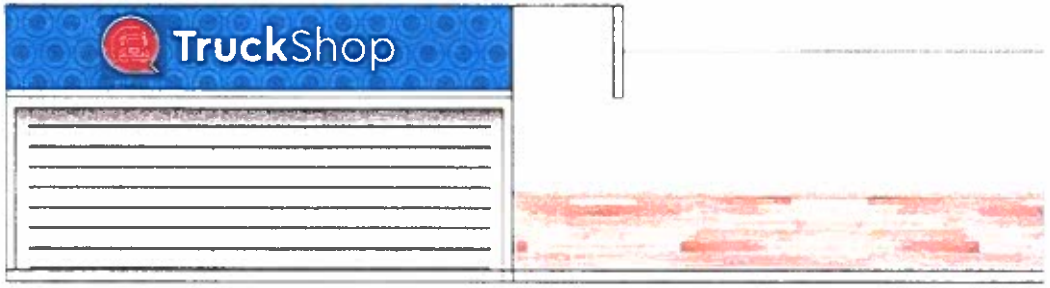

QuikWay
the best way to shop

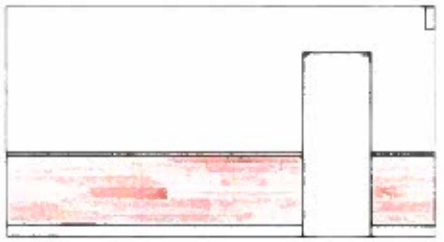

RESTROOMS
Quik Quench

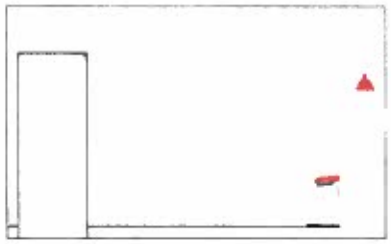


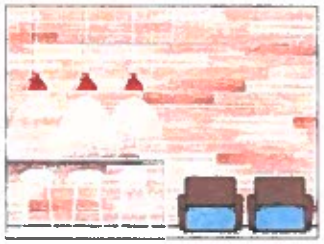

EnjoySweet

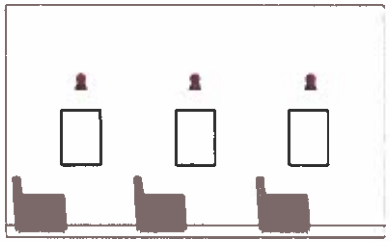

EnjoyGrilled

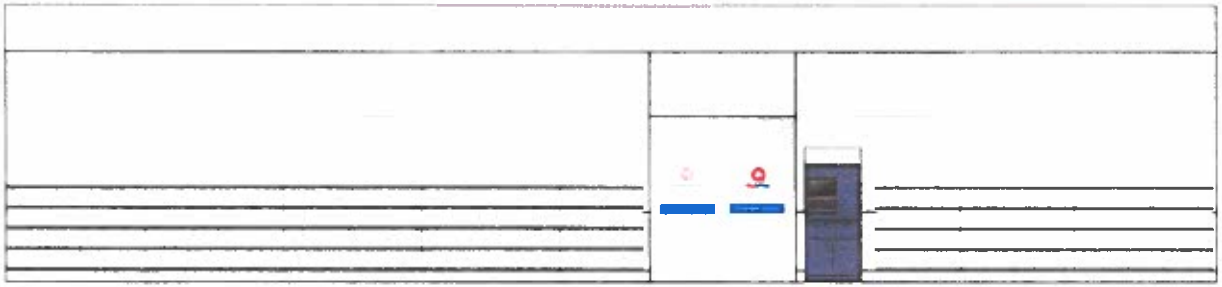

TruckShop

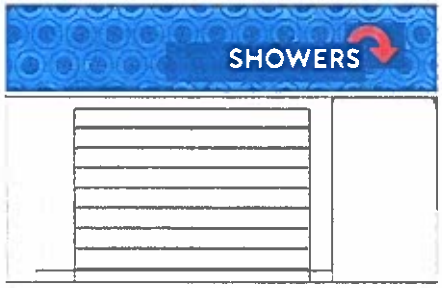




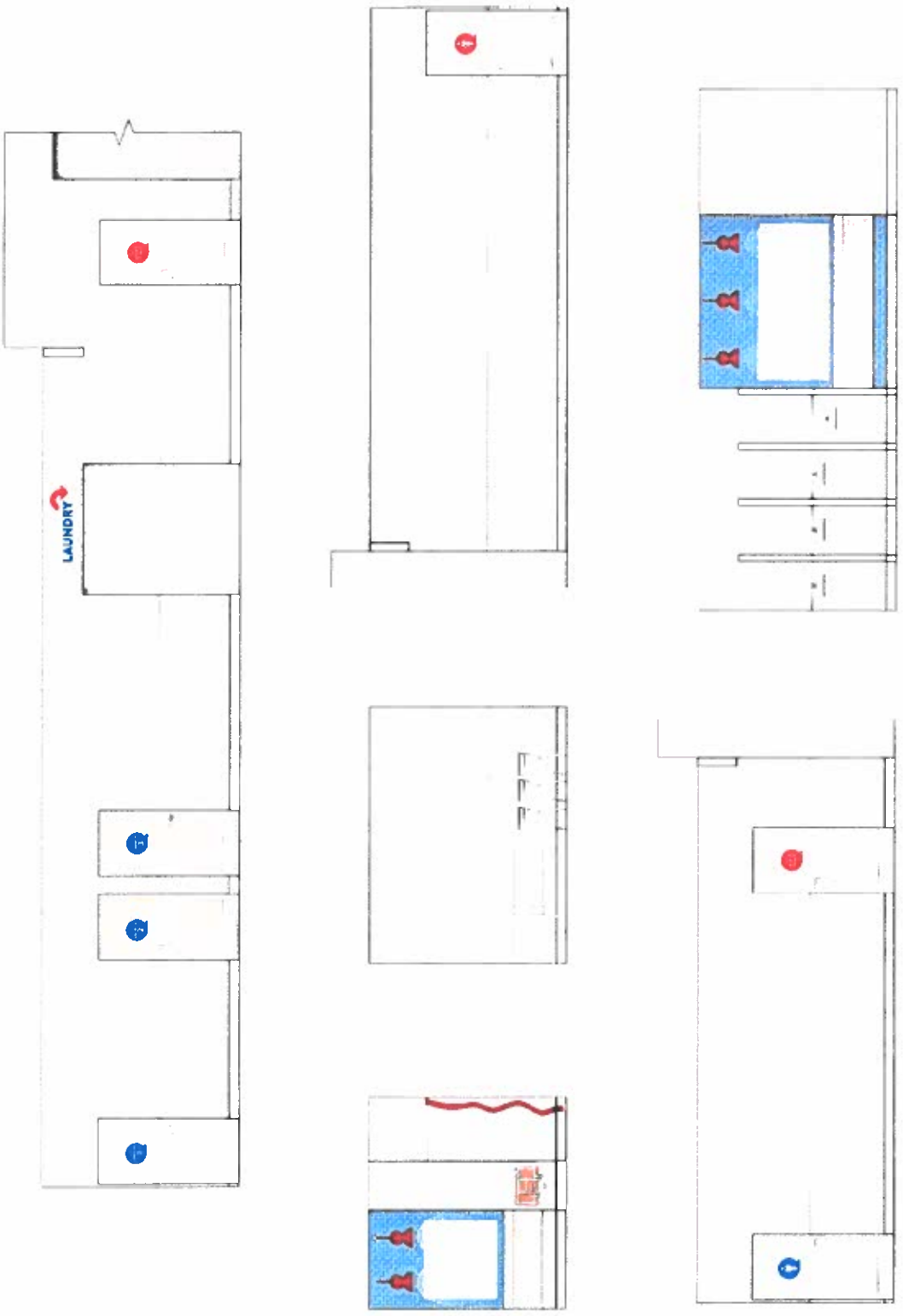




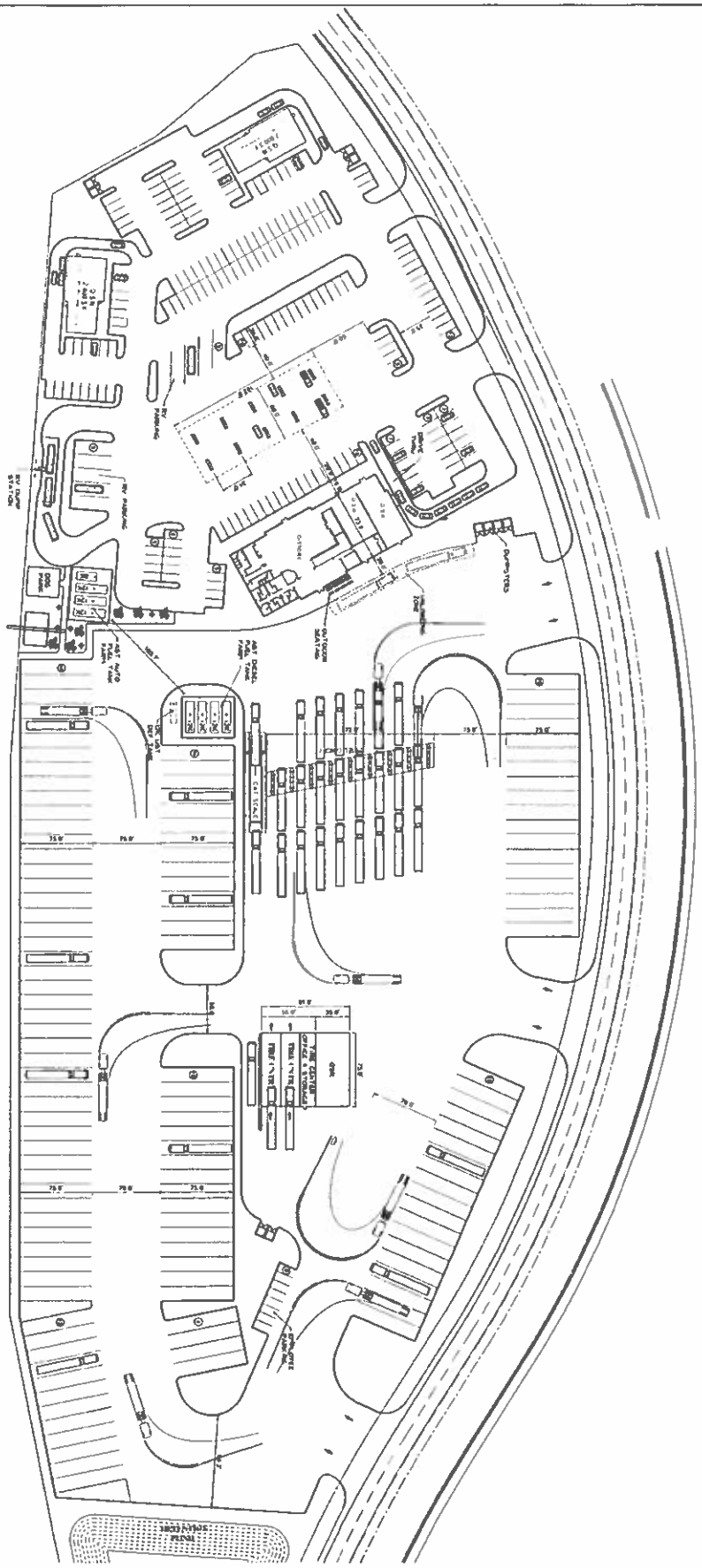



SHOWERS


LOUNGE


LAUNDRY

OPTION 3

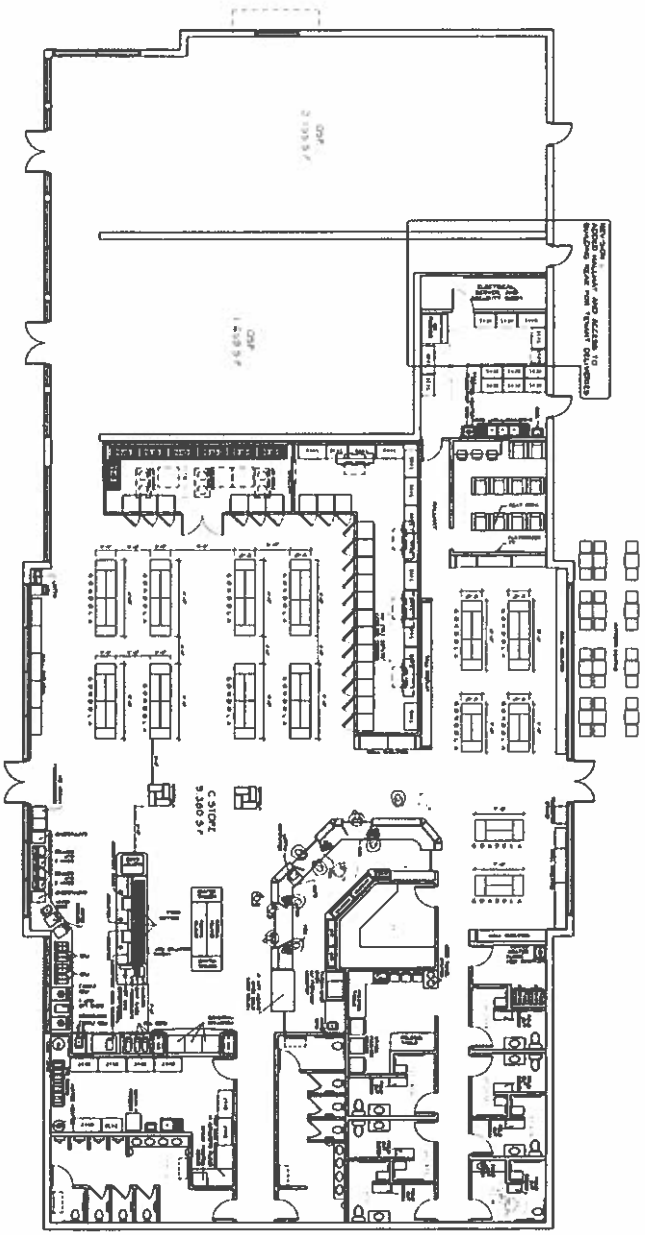


SGM MOONGLO

LIVINGSTON, CA

PROPOSED SITE PLAN

PARAGON SOLUTIONS

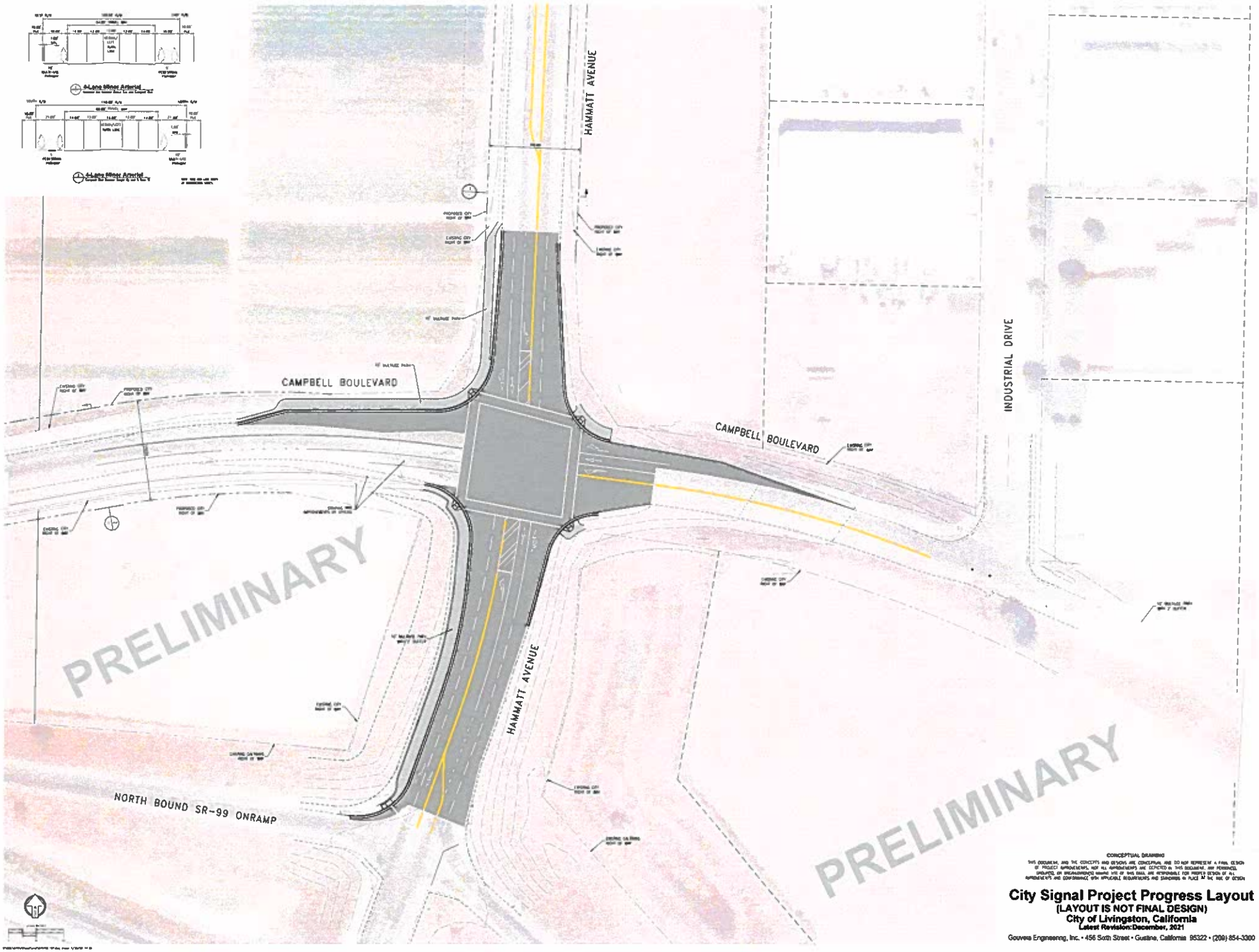


SGM MOONGLO

LIVINGSTON, CA

STORE LAYOUT PLAN

PARAGON SOLUTIONS



Attachment 7

CONCEPTUAL DRAWING

THIS DOCUMENT, AND THE CONCEPTS AND DESIGNS ARE CONCEPTUAL AND DO NOT REPRESENT A FINAL DESIGN OF PROJECT IMPROVEMENTS, NOR ALL IMPROVEMENTS ARE DEPICTED IN THIS DOCUMENT. ANY PERSON(S), CREATED, OR ENGINEERING HAVING USE OF THIS EXHIBIT ARE RESPONSIBLE FOR PROPER DESIGN OF ALL IMPROVEMENTS AND CONFORMANCE WITH APPLICABLE REQUIREMENTS AND STANDARDS IN PLACE AT THE TIME OF DESIGN

City Signal Project Progress Layout
(LAYOUT IS NOT FINAL DESIGN)
City of Livingston, California
Latest Revision:December, 2021

Gouveia Engineering, Inc. • 456 Sixth Street • Gustine, California 95322 • (209) 854-3300

RESOLUTION 2022-06

RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF LIVINGSTON RECOMMENDING TO THE CITY COUNCIL THE ADOPTION OF THE MITIGATED NEGATIVE DECLARATION AND ADOPTION OF A MITIGATION MONITORING/REPORTING PROGRAM FOR THE MOONGLO PROJECT CONDITIONAL USE PERMIT 2020-02 AND SITE PLAN & DESIGN REVIEW 2020-02

WHEREAS, pursuant to Livingston Municipal Code ("LMC") sections 5-6-7 and 5-6-9, Rod Hawkins of Hawkins and Associates Engineering Inc. on behalf of SGM Moonglo, Inc., Owners, have applied for a Conditional Use Permit and a Site Plan and Design Review approval for the SGM Moonglo Truck Stop Complex (Travel Center) Project which consists of: a convenience store with two attached quick service restaurants, a fueling station for passenger cars, a parking lot for passenger vehicles, recreational vehicles and trucks, a dump station for RV and travel trailers, a separate truck tire service establishment with an attached quick service restaurant, a certified truck scale, a diesel fuel dispensing area, abandonment of an existing storm drain basin and development of a new basin under Phase 1 and the development of two quick service restaurants, associated parking lot and access drive under Phase 2. and associated driveways, circulation, parking, landscaping, lighting, and signage at and southeast of the corner of the Campbell Blvd/Hammatt Ave intersection adjacent to State Route 99 at the Hammatt Ave interchange, on an18.0 acre property consisting of APNs: 023-070-012, 023-070-014, 023-070-14 and 023-060-010, in the City of Livingston; and

WHEREAS, these developments are deemed a Project within the meaning of the California Environmental Quality Act (CEQA); and

WHEREAS, the City of Livingston has caused to be prepared an Initial Study/Mitigated Negative Declaration (IS/MND) addressing the potential environmental effects of the SGM Moonglo Truck Stop Complex Project in accordance with the requirements of CEQA, which is attached hereto as Exhibit "A" and is hereby incorporated by reference; and

WHEREAS, a Notice of Intent to adopt a MND was published on December 30, 2020, in the Merced Sun-Star; and

WHEREAS, the IS/MND has been circulated for public and agency review and comment in accordance with the requirements of CEQA from December 30, 2020, through January 19, 2021, and received three comments from City Departments; and

WHEREAS, the City Planning Commission held a public hearing on the proposed project on August 9, 2022, which had been properly noticed by posting, a newspaper ad and a mailing to adjacent properties within 300 feet of the site, and

WHEREAS, the Planning Commission has reviewed and independently considered the analysis and conclusions of the IS/MND; and

WHEREAS, the Planning Commission has reviewed and considered any and all comments on the IS/MND made at the public hearings; and

WHEREAS, the City has prepared a Mitigation Monitoring/Reporting Program for the SGM Moonglo Truck Stop Complex Project attached hereto as Exhibit "B" and is hereby incorporated by reference.

NOW, THEREFORE, BE IT RESOLVED that the Livingston Planning Commission hereby adopts Resolution 2022-06, which recommends adoption of the IS/MND for the subject new development as contained within Exhibit "A" attached hereto with Table 1-1 (summarizing the impacts and mitigation measures) also attached.

BE IT FURTHER RESOLVED that the Livingston Planning Commission hereby recommends adoption of the Mitigation Monitoring/Reporting Program for the project as contained within Planning Commission Resolution 2022-06, Exhibit "C".

The foregoing resolution was introduced and moved for adoption on August 9, 2022, by _____, and being duly seconded by _____, was passed by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

ATTEST:

_____
Chair, ROBERT WALLIS

_____
Secretary of the Planning Commission,
MIGUEL GALVEZ

PUBLIC REVIEW DRAFT

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

FOR THE

LIVINGSTON TRUCK STOP COMPLEX

Livingston, California

December 2020

Prepared for:

City of Livingston
1416 C Street
Livingston, CA 95334
209-394-8041

Prepared by:

BaseCamp Environmental, Inc.
802 W. Lodi Avenue
Lodi, CA 95240
209-224-8213

BaseCamp Environmental, Inc.

PUBLIC REVIEW DRAFT

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

FOR THE

LIVINGSTON TRUCK STOP COMPLEX

Livingston, California

December 2020

Prepared for:

CITY OF LIVINGSTON
1416 C Street
Livingston, CA 95334
209-394-8041

Prepared by:

BASECAMP ENVIRONMENTAL, INC.
802 W. Lodi Avenue
Lodi, CA 95240
209-224-8213

TABLE OF CONTENTS

LIST OF ACRONYMS
USED IN THIS DOCUMENT

AB	Assembly Bill
ADT	average daily traffic
APN	Assessor's Parcel Number
ARB	California Air Resources Board
BMP	Best Management Practice
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAP	Climate Action Plan
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Data Base
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CUPA	Certified Unified Program Agency
dB	decibel
dBA	A-weighted decibel
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EPA	U. S. Environmental Protection Agency
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GHG	greenhouse gas
IS/MND	Initial Study/Mitigated Negative Declaration
ISR	Indirect Source Rule
ITMM	Incidental Take Minimization Measure
L_{dn}	Day-Night Average Sound Level
L_{eq}	Equivalent Sound Level
L_{max}	Maximum Sound Level
LOS	Level of Service
mgd	million gallons per day
MS4	Municipal Separate Storm Sewer System
NAHC	Native American Heritage Commission
NOI	Notice of Intent
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System

PM_{10}	particulate matter 10 micrometers or less in diameter
$PM_{2.5}$	particulate matter 2.5 micrometers or less in diameter
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SJVAPCD	San Joaquin Valley Air Pollution Control District
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
UST	Underground Storage Tank
WDID	Waste Discharger's Identification Number

City of Livingston
1416 C Street
Livingston, CA 95334
Attn: Randy Hatch

NOTICE OF INTENT TO ADOPT MITIGATED NEGATIVE DECLARATION
AND NOTICE OF PUBLIC MEETING

Notice is hereby given that the City of Livingston has prepared an Initial Study (IS) of environmental effects and intends to adopt a Mitigated Negative Declaration (MND) for the Livingston Truck Stop Complex. The City of Livingston is the Lead Agency for this project under the California Environmental Quality Act (CEQA).

The project proposes to develop approximately 18.9 acres of currently vacant property as a travel center that would serve trucks and passenger vehicles, primarily those traveling on nearby State Route (SR) 99. Nine fuel dispensers serving trucks and ten fuel dispensers serving passenger vehicles would be installed, each dispenser with two pumps. Subsequent development would add three quick-serve restaurants with associated parking. A storm drainage retention basin would be constructed at the eastern end of the project site.

The IS/MND analyzes the potential environmental effects of the project in the environmental issue areas specified in CEQA and the State CEQA Guidelines. On the basis of this analysis, the IS/MND finds that the project will not involve any significant environmental effects, provided that the mitigation measures described in the IS/MND are implemented. The project proponent has agreed to the mitigation measures, and these measures will be included in a Mitigation Monitoring/Reporting Plan to be adopted by the City of Livingston in conjunction with the IS/MND and approval of the project. There are no sites identified under Section 65962.5 of the Government Code located on or near the project site.

Copies of the IS/MND are available for public review at the City of Livingston Planning Department at the address shown above and at the City's website: https://www.cityoflivingston.org. The City will accept public and agency comments on the IS/MND during a 20-day review period that will begin on December 30, 2020 and end on January 19, 2021. Comments may be submitted by mail or e-mail to the City at the address shown above or to rhatch@livingstoncity.com and filo@livingstoncity.com.

In addition, notice is hereby given that the Livingston Planning Commission will consider the IS/MND and the Mitigation Monitoring/Reporting Plan at a public meeting scheduled for February 9, 2021, at 7:00 pm in the City Council Chambers, 1416 "C" Street, Livingston, California.

Randy Hatch, Contract City Planner
December 30, 2020

MITIGATED NEGATIVE DECLARATION

A. General Project Information

Project Title:	Livingston Truck Stop Complex
Lead Agency Name and Address:	City of Livingston 1416 C Street Livingston, CA 95334
Contact Person and Phone Number:	Randy Hatch, Contract City Planner 209-394-8041, ext. 123
Project Location:	The 18.9-acre project site is located on three parcels southeast of the intersection of Campbell Boulevard and Hammatt Avenue in northeastern Livingston. The site is shown on the USGS Cressey, California, 7.5-minute quadrangle map within Section 25, Township 6 South, Range 2 East, MDBM.
Project Sponsor Name and Address:	SGM-Moonglo, Inc. 19898 Avenue 24 Chowchilla, CA 93610 803-445-7200
General Plan Designation:	Highway Commercial
Zoning:	C-3, Highway Service Commercial
Description of Project:	The project proposes to develop approximately 18.9 acres of currently vacant property as a travel center that would serve trucks and passenger vehicles, primarily those traveling on nearby State Route (SR) 99. The project would initially construct a travel center building that includes a convenience store and a quick-serve restaurant and a second building that would house a tire center and space for another quick-serve restaurant. Nine fuel dispensers serving trucks and ten fuel dispensers serving passenger vehicles would be installed, each dispenser with two pumps. Subsequent development would add three quick-serve restaurants with associated parking. A storm drainage retention basin would be constructed at the eastern end of the project site. The project would require a Conditional Use Permit (CUP) and site plan and design review approvals.

Surrounding Land Uses and Setting:	The project site is in a developing area adjacent to the SR 99 freeway at the Hammatt Avenue interchange. SR 99 forms the southern boundary of the project site. Existing commercial development is located to the north. Land east of the project site is vacant. Land across Hammatt Avenue to the west is also vacant, but a travel-oriented commercial project has been approved for development.
Other Public Agencies Whose Approval is Required:	San Joaquin Valley Air Pollution Control District
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, has consultation begun?	No tribes have requested AB 52 notification.

B. 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" prior to mitigation, as indicated by the checklist on the following pages.

	Aesthetics		Agriculture/Forestry Resources		Air Quality
	Biological Resources	✓	Cultural Resources		Energy
✓	Geology/Soils		Greenhouse Gas Emissions		Hazards/Hazardous Materials
✓	Hydrology/Water Quality		Land Use		Mineral Resources
	Noise		Population/Housing		Public Services
	Recreation	✓	Transportation	✓	Tribal Cultural Resources
	Utilities/Service Systems		Wildfire	✓	Mandatory Findings of Significance

C. Lead Agency 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 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL 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.

CITY OF LIVINGSTON
COMMUNITY DEVELOPMENT DEPARTMENT

Randy Hatch

Randy Hatch, Contract City Planner

12/8/2020

Date

1.0 INTRODUCTION

1.1 Project Brief

This document is an Initial Study/Mitigated Negative Declaration (IS/MND) for the Livingston Truck Stop Complex Project (project) in Livingston, California. The 18.9-acre project site is located at the southeast corner of the intersection of Campbell Boulevard and Hammatt Avenue adjacent to the SR 99 freeway in northeastern Livingston (Figures 1-1 to 1-5). This IS/MND has been prepared in compliance with the requirements of the California Environmental Quality Act (CEQA). For the purposes of CEQA, the City of Livingston (City) is the Lead Agency for the project.

The project proposes to develop a range of truck and passenger car travel-oriented commercial uses on the site in two phases. Phase 1 would include a central building with a convenience store and two quick-serve restaurants, along with restrooms and showers for travelers and fueling stations for passenger vehicles. A truck service area to the east would consist of a diesel fuel dispensing area, a CAT scale, and a building that would accommodate both a tire center and a future quick-serve restaurant. Proposed site development would include parking for passenger vehicles and trucks, along with recreational vehicle parking and a dump station. Phase 2 of the project proposes the development of two new quick-serve restaurants, with associated circulation and parking in the western portion of the site. A third quick-serve restaurant in the eastern portion of the site would be located in a building constructed during Phase 1.

The current General Plan designation for the majority of project site is Highway Commercial, and the current zoning is C-3 – Highway Service Commercial. The proposed development is consistent with the General Plan designation and the zoning. The proposed land uses would require City approval of a Conditional Use Permit for the proposed fueling stations and quick-serve restaurant drive-thrus, along with Site Plan and Design Review.

1.2 Purpose of Initial Study

The California Environmental Quality Act (CEQA) requires that public agencies consider and document the potential environmental effects of the agency's actions that meet CEQA's definition of a "project." Briefly summarized, a "project" is an action that has the potential to result in direct or indirect physical changes in the environment. A project includes the agency's direct activities as well as activities that involve public agency approvals or funding. Guidelines for an agency's implementation of CEQA are found in the CEQA Guidelines (Title 14, Chapter 3 of the California Code of Regulations).

Provided that a project is not exempt from CEQA, the first step in the agency's consideration of its potential environmental effects is the preparation of an Initial Study. The purpose of an Initial Study is to determine whether the project would involve "significant" environmental effects as defined by CEQA and to describe feasible mitigation

measures that would avoid significant effects or reduce them to a level that would be less than significant. If the Initial Study does not identify significant effects, or if it identifies mitigation measures that would reduce all of the significant effects of the project to a less-than-significant level, then the agency prepares a Negative Declaration or Mitigated Negative Declaration. If the project would involve significant effects that cannot be readily mitigated, then the agency must prepare an Environmental Impact Report (EIR). The agency may also decide to proceed directly with the preparation of an EIR without preparation of an Initial Study.

The proposed project is a "project" as defined by CEQA and is not exempt from CEQA consideration. The City has determined that the project involves the potential for significant environmental effects and requires preparation of this Initial Study. The Initial Study describes the proposed project and its environmental setting, it discusses the potentially significant environmental effects of the project, and it identifies feasible mitigation measures that would avoid the potentially significant environmental effects of the project or reduce them to a level that would be less than significant. The Initial Study considers the project's potential for significant environmental effects in the following subject areas:

Aesthetics
Agricultural Resources
Air Quality
Biological Resources
Cultural Resources
Energy
Geology and Soils
Greenhouse Gas Emissions
Hazards and Hazardous Materials
Hydrology and Water Quality
Land Use and Planning
Mineral Resources
Noise
Population and Housing
Public Services
Recreation
Transportation/Traffic
Tribal Cultural Resources
Utilities and Service Systems
Wildfire
Mandatory Findings of Significance

The Initial Study concluded that the project would have significant environmental effects, but recommended mitigation measures would reduce all these effects to a level that would be less than significant. As a result, the City has prepared a Mitigated Negative Declaration and notified the public of the City's intent to adopt the Initial Study/Mitigated Negative Declaration. A copy of the City's Notice of Intent is shown just inside the cover of this document. As of the distribution of the IS/MND for public review, the applicant has accepted all the recommended mitigation measures. The time available for comment on the IS/MND is shown in the Notice of Intent.

1.3 Environmental Evaluation Checklist Terminology

The project's potential environmental effects are evaluated in the Environmental Evaluation Checklist shown in Chapter 3.0. The checklist includes a list of environmental considerations against which the project is evaluated. For each question, the City determines whether the project would involve: 1) a Potentially Significant Impact, 2) a

Less Than Significant Impact with Mitigation Incorporated, 3) a Less Than Significant Impact, or 4) No Impact.

> A Potentially Significant Impact occurs when there is substantial evidence that the project could involve a substantial adverse change to the physical environment, i.e., that the environmental effect may be significant, and mitigation measures have not been defined that would reduce the impact to a less than significant level. If there are one or more Potentially Significant Impact identified in the Initial Study, an EIR is required. No Potentially Significant Impacts have been identified in this IS/MND.
>
> An environmental effect that is Less Than Significant with Mitigation Incorporated is a Potentially Significant Impact that can be avoided or reduced to a level that is less than significant with the application of defined mitigation measures. This IS/MND identifies several impacts that are Less than Significant with Mitigation Incorporated.
>
> A Less Than Significant Impact occurs when the project would involve effects on an area of environmental concern, but the project would not involve a substantial adverse change to the physical environment, and no mitigation measures are required. This IS/MND identifies many impacts that are considered Less than Significant.
>
> A determination of No Impact is self-explanatory. This IS/MND identifies several areas of environmental concern in which the project would have No Impact on the physical environment.

Some existing plans, ordinances, and regulatory requirements that have been established by the City and other agencies with jurisdiction, and which are routinely implemented in conjunction with new development, function as measures that mitigate environmental impacts. These are described in this IS/MND as a part of the existing regulatory setting, along with how they would reduce or avoid the project's environmental effects. Where these regulatory requirements are not sufficient to reduce or avoid the project's environmental effects, this IS/MND describes additional mitigation measures needed to address the project's environmental impacts. These additional mitigation measures, which the City should incorporate as part of the project, are described in Chapter 3.0 and are listed in Table 1-1. As of the publication of the Notice of Intent for this project, these mitigation measures have been accepted by the project applicant.

1.4 Summary of Environmental Effects and Mitigation Measures

The following pages contain Table 1-1, Summary of Impacts and Mitigation Measures. Table 1-1 summarizes the results of the Environmental Checklist Form and associated narrative discussion of the project's potential environmental effects in Chapter 3.0. The potential environmental impacts of the proposed project are summarized in the left-most column of this table. The projected level of significance of each impact without additional mitigation is indicated in the second column. If additional mitigation is required, mitigation

measures proposed to avoid or minimize significant environmental effects are shown in the third column. The fourth column shows the significance of the impact after mitigation measures are applied.

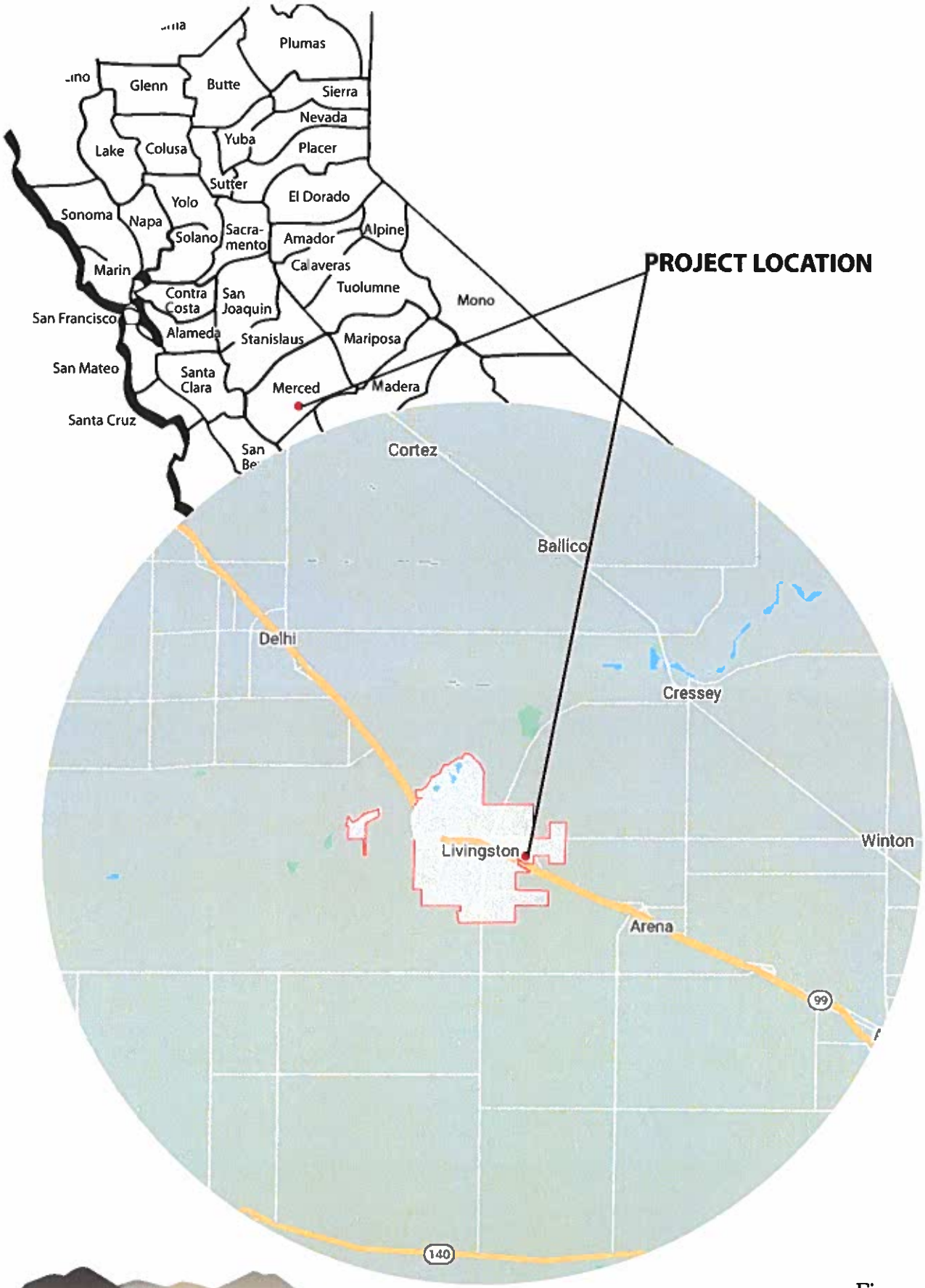
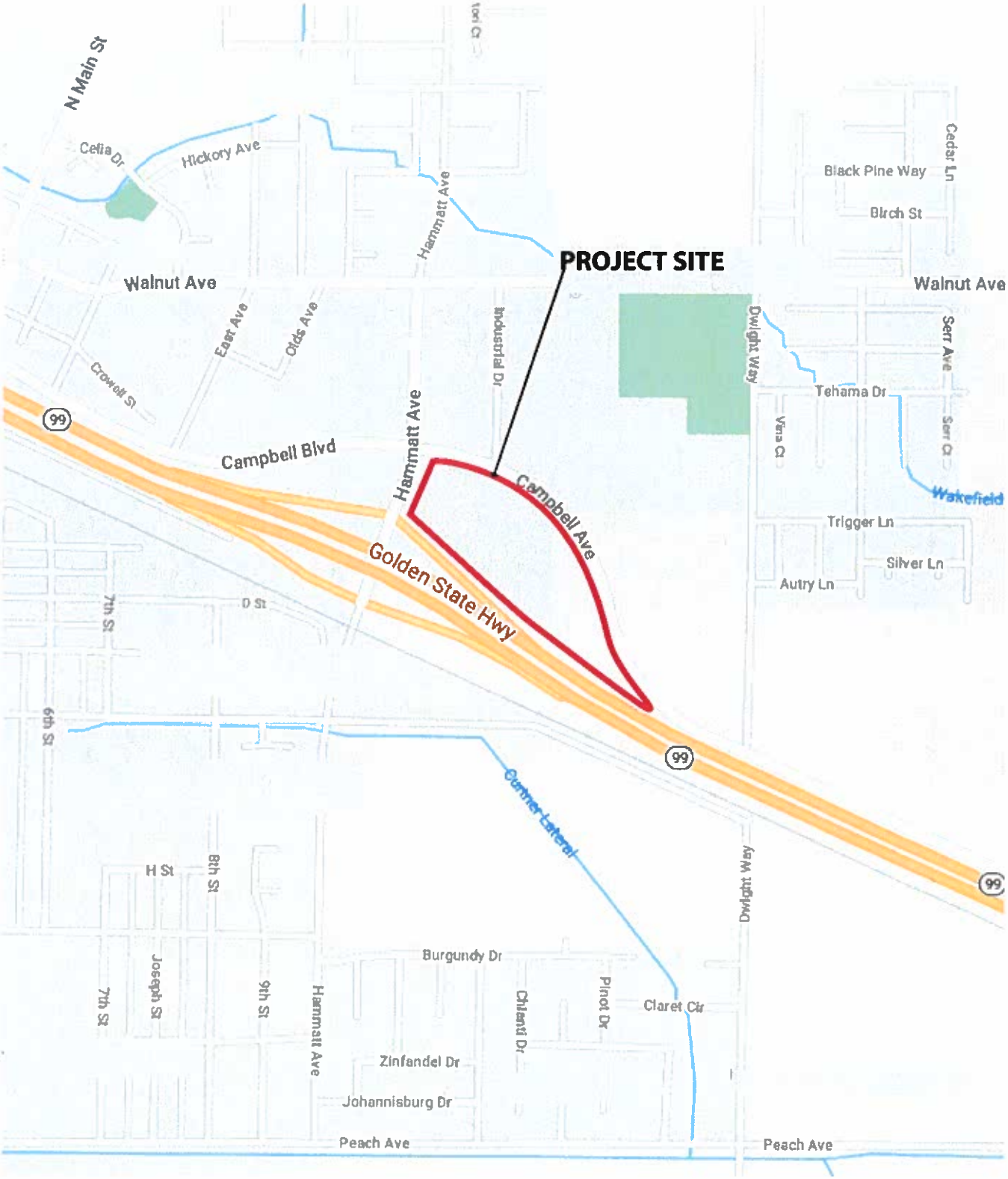


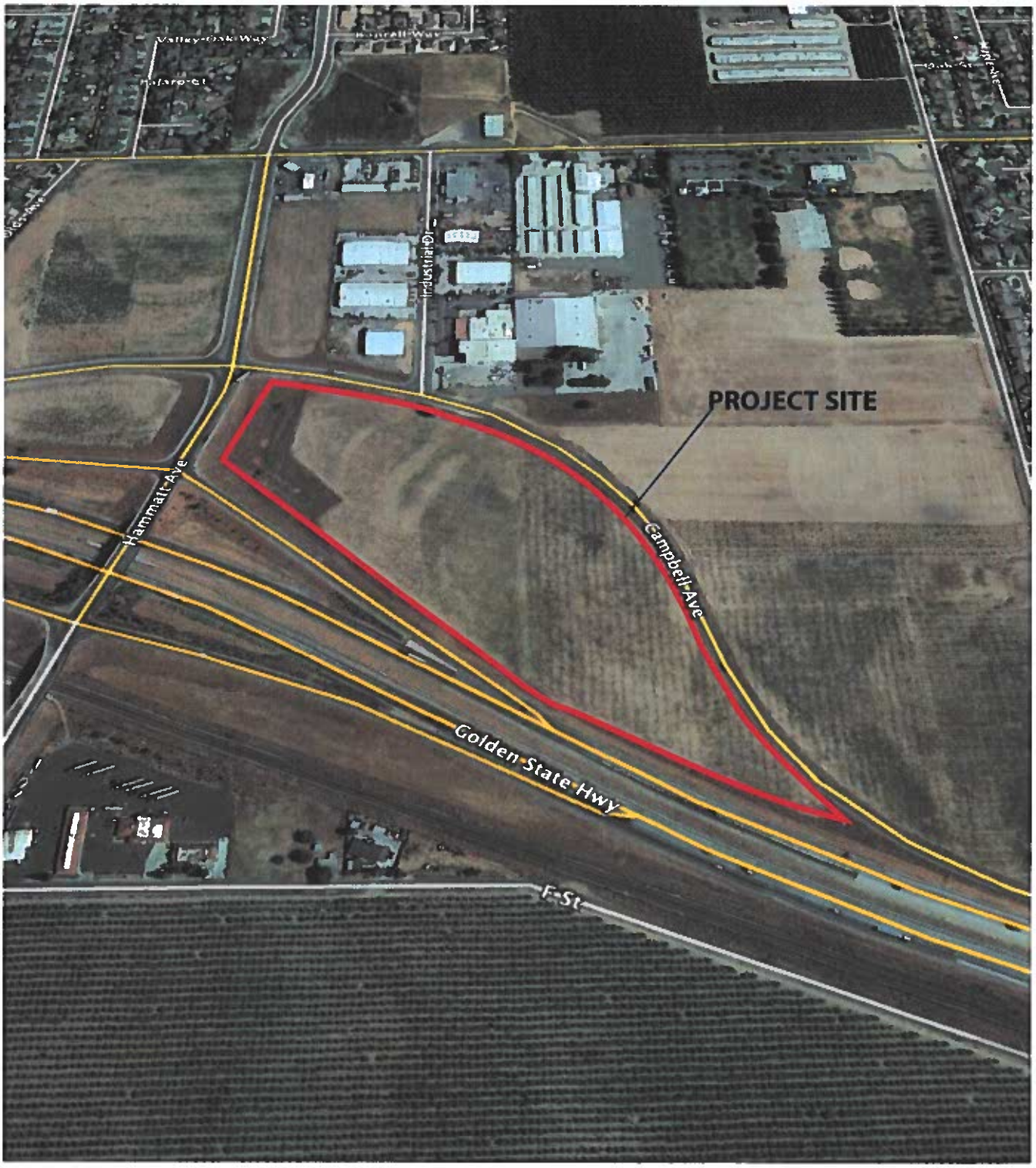
Figure 1-1
REGIONAL LOCATION MAP



BaseCamp Environmental

Figure 1-2
STREET MAP

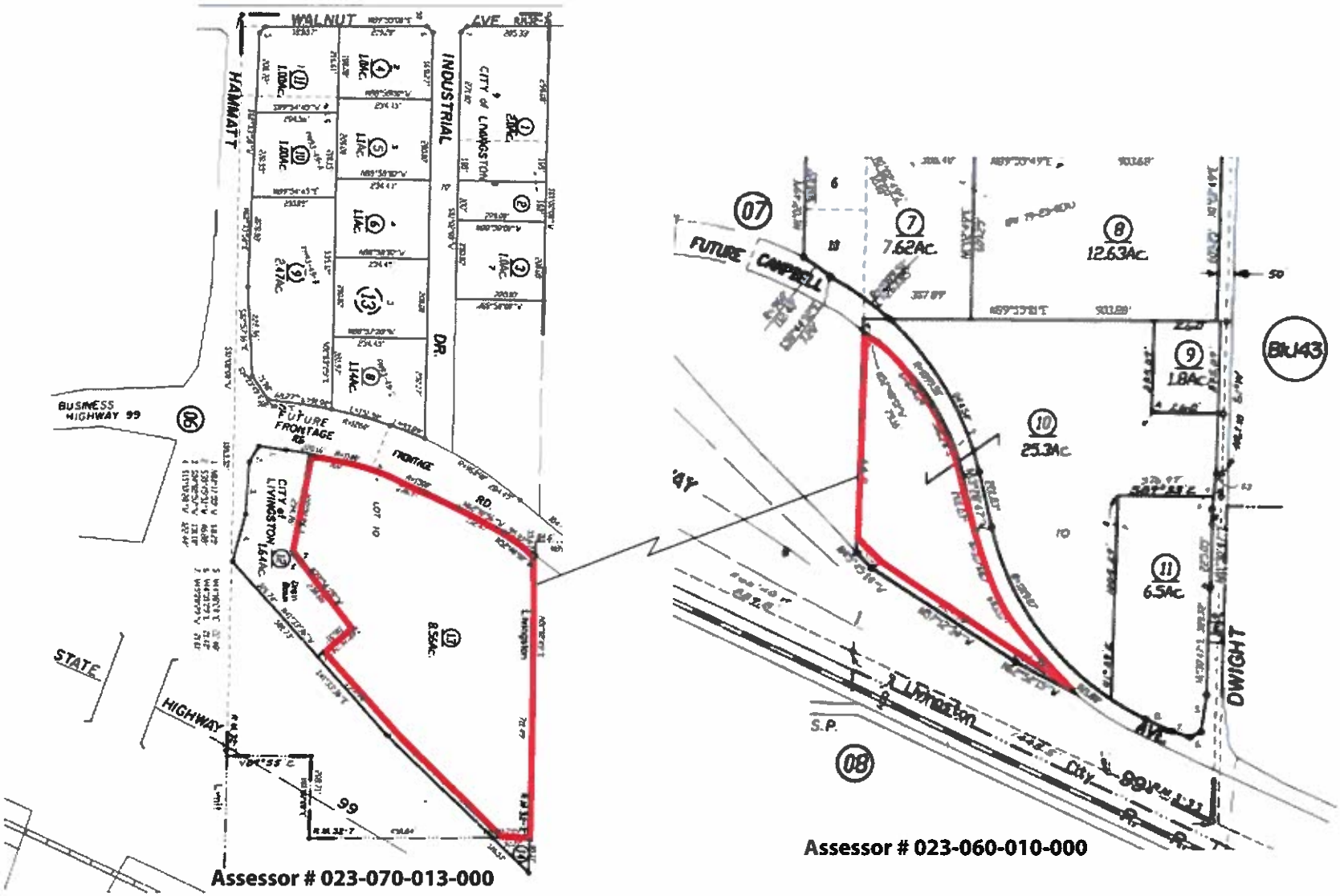
Figure 1-3
USGS MAP



SOURCE: Google Maps

BaseCamp Environmental

Figure 1-4
Aerial Photo



SOURCE: Merced County Assessor Parcel Office

Figure 1-5
ASSESSOR PARCEL MAP

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
3.1 AESTHETICS			
a) Scenic Vistas	LS	None required	-
b) Scenic Resources	NI	None required	-
c) Visual Character and Quality	LS	None required	-
d) Light and Glare	LS	None required	-
3.2 AGRICULTURE AND FORESTRY RESOURCES			
a) Farm Land Conversion	NI	None required	-
b) Agricultural Zoning and Williamson Act	NI	None required	-
c, d) Forest Land Conversion and Zoning	NI	None required	-
e) Indirect Conversion of Farmland of Forest Land	NI	None required	-
3.3 AIR QUALITY			
a) Air Quality Plan Consistency	LS	None required	-
b) Cumulative Emissions	LS	None required	-
c) Exposure of Sensitive Receptors to Pollutants	LS	None required	-
d) Odors and Other Emissions	LS	None required	-
3.4 BIOLOGICAL RESOURCES			
a) Effects on Special-Status Species	LS	None required	-
b) Riparian and Other Sensitive Habitats	NI	None required	-

LEGEND: NI = No Impact; LS = Less Than Significant; PS = Potentially Significant

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
c) Wetlands	NI	None required	-
d) Fish and Wildlife Movement	NI	None required	-
e) Local Biological Requirements	LS	None required	-
f) Conflict with Habitat Conservation Plans	NI	None required	-
3.5 CULTURAL RESOURCES			
a) Historical Resources	NI	None required	-
b) Archaeological Resources	PS	CULT-1: If any subsurface cultural resources are encountered during construction of the project, all construction activities in the vicinity of the encounter shall be halted until a qualified archaeologist can examine these materials, make a determination of their significance and, if significant, recommend further mitigation measures that would reduce potential effects to a level that is less than significant. Recommended measures could include, but are not limited to, 1) preservation in place, or 2) excavation, recovery, and curation by qualified professionals. The City of Livingston Community Development Department shall be notified, and the project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation measures and documenting mitigation efforts in a written report to the City's Community Development Department, consistent with the requirements of the CEQA Guidelines.	LS
c) Human Burials	PS	CULT-2: If project construction encounters evidence of human burial or scattered human remains, the contractor shall immediately notify the County Coroner and the City, which shall in turn notify the appropriate tribal representatives. The City shall notify other federal and	LS

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
		State agencies as required. The City will be responsible for compliance with the requirements of California Health and Safety Code Section 7050.5 and with any direction provided by the County Coroner. If the human remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission, which will notify and appoint a Most Likely Descendant. The Most Likely Descendant shall work with the City and a qualified archaeologist to decide the proper treatment of the human remains and any associated funerary objects in accordance with California Public Resources Code Sections 5097.98 and 5097.991. Avoidance is the preferred means of disposition of the burial resources.	
3.6 ENERGY			
a) Project Energy Consumption	LS	None required	-
b) Consistency with Energy Plans	LS	None required	-
3.7 GEOLOGY AND SOILS			
a-i) Fault Rupture Hazards	NI	None required	-
a-ii, iii) Seismic Hazards	LS	None required	-
a-4) Landslides	NI	None required	-
b) Soil Erosion	PS	GEO-1: Prior to commencement of construction activity, the developer shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for the project and file a Notice of Intent with the State Water Resources Control Board (SWRCB) in compliance with the Construction General Permit and City of Livingston storm water requirements. The SWPPP shall be available on the	LS

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
		construction site at all times. The developer shall incorporate an Erosion Control Plan consistent with all applicable provisions of the SWPPP within the site improvement and building plans. The developer also shall submit the SWRCB Waste Discharger's Identification Number to the City prior to approval of development or grading plans.	
c) Geologic Instability	LS	None required	-
d) Expansive Soils	NI	None required	-
e) Adequacy of Soils for Sewage Disposal	NI	None required	-
f) Paleontological Resources and Unique Geological Features	PS	GEO-2: If any subsurface paleontological resources are encountered during construction of the project, all construction activities in the vicinity of the encounter shall be halted until a qualified paleontologist can examine these materials, make a determination of their significance and, if significant, recommend further mitigation measures that would reduce potential effects to a level that is less than significant. Recommended measures may include, but are not limited to, 1) preservation in place, or 2) excavation, recovery, and curation by qualified professionals. The City of Livingston Community Development Department shall be notified, and the project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation measures and documenting mitigation efforts in a written report to the Community Development Department, consistent with the requirements of the CEQA Guidelines.	LS
3.8 GREENHOUSE GAS EMISSIONS			

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
a, b) Project GHG Emissions and Consistency with GHG Reduction Plans.	LS	None required	-
3.9 HAZARDS AND HAZARDOUS MATERIALS			
a, b) Hazardous Material Transport, Use, and Potential Release	LS	None required	-
c) Hazardous Materials Releases near Schools	NI	None required	-
d) Hazardous Materials Sites	NI	None required	-
e) Public Airport Operations	NI	None required	-
f) Emergency Response and Evacuations	LS	None required	-
g) Wildland Fire Hazards	LS	None required	-
3.10 HYDROLOGY AND WATER QUALITY			
a) Surface Waters and Water Quality	PS	HYDRO-1: The developer shall submit a Storm Water Quality Plan for the project that shall include post-construction Best Management Practices (BMPs) as required by the City's Storm Water Management Program. The Storm Water Quality Plan shall be reviewed and approved by the City of Livingston Public Works Department prior to approval of project improvement plans. HYDRO-2: If required, the developer shall execute a Maintenance Agreement with the City for stormwater BMPs prior to receiving a Certificate of Occupancy. The developer shall remain the responsible party and provide funding for the operation, maintenance and replacement	LS

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
		costs of the proposed treatment devices built for the project. HYDRO-3: The developer shall comply with applicable requirements of, and pay all associated fees as required by, the City's Storm Water Pollution Prevention Program as set forth in its NPDES Storm Water Permit.	
b) Groundwater Supplies and Recharge	LS	None required	-
c-i, -ii) Drainage Patterns	LS	None required	-
c-iii) Runoff	LS	None required	-
c-iv) Flood Flows	NI	None required	-
d) Other Flooding Hazards	LS	None required	-
e) Water Quality and Groundwater Sustainability Plans	NI	None required	-
3.11 LAND USE AND PLANNING			
a) Division of Established Communities	NI	None required	-
b) Conflicts with Plans, Policies and Regulations Mitigating Environmental Effects	LS	None required	-
3.12 MINERAL RESOURCES			
a, b) Availability of Mineral Resources	NI	None required	-
3.13 NOISE			
a) Exposure to Noise Exceeding Local Standards	LS	None required	

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
b) Exposure to Groundborne Noise	LS	None required	-
c) Public Airport and Private Airstrip Noise	NI	None required	-
3.14 POPULATION AND HOUSING			
a) Population Growth Inducement	LS	None required	-
b) Displacement of Housing or People	NI	None required	-
3.15 PUBLIC SERVICES			
a) Fire Protection	LS	None required	-
b) Police Protection	LS	None required	-
c) Schools	LS	None required	-
d, e) Parks and Other Public Facilities	LS	None required	-
3.16 RECREATION			
a, b) Recreational Facilities	LS	None required	-
3.17 TRANSPORTATION/TRAFFIC			
a) Conflict with Applicable Plans, Ordinances and Policies	PS	TRANS-1: The project applicant or successors in interest shall be required to pay fair-share costs of a traffic signal at the Hammatt Avenue/Campbell Boulevard intersection. TRANS-2: The project applicant or successors in interest shall be required to pay fair-share costs of traffic signals or roundabouts at the Hammatt Avenue intersections with the SR 99 northbound ramps and the SR 99 southbound ramps.	LS

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
		The project applicant or successors in interest shall be required to pay fair-share costs of preparing a preliminary Intersection Control Evaluation report to provide a screening assessment of the feasibility of a roundabout or traffic signal at the SR 99 ramps intersections. TRANS-3: The project applicant or successors in interest shall be required to pay fair-share costs of the addition of an eastbound right-turn lane, approximately 200 feet in length, on Campbell Boulevard with right turn overlap phases on the northbound-to-eastbound and eastbound-to-southbound movements. TRANS-4: The project applicant or successors in interest shall install frontage improvements along Campbell Boulevard, including sidewalks, during Phase 1 development of the project site (see Mitigation Measure	
b) Conflict with CEQA Guidelines Section 15064.3(b)	LS	None required	-
c) Traffic Hazards	PS	TRANS-5: Improvements to the Hammatt Avenue/ Campbell Boulevard intersection shall be designed to accommodate STAA trucks, and the project shall contribute its fair share to the cost of those features. Project access shall be designed to accommodate STAA trucks. Phase 1 shall contribute its fair share to the cost of a Caltrans STAA route designation application to be completed by the City and shall contribute its fair share to the cost of improvements needed to accommodate STAA trucks.	LS
d) Emergency Access	LS	None required	-
3.18 TRIBAL CULTURAL RESOURCES			

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
a, b) Tribal Cultural Resources	PS	Mitigation Measures CULT-1 and CULT-2.	LS
3.19 UTILITIES AND SERVICE SYSTEMS			
a) Relocation or Construction of Utility Facilities	LS	None required	-
b) Water Supplies	LS	None required	-
c) Wastewater Treatment Capacity	LS	None required	-
d) Solid Waste Services	LS	None required	-
e) Compliance with Solid Waste Regulations	NI	None required	-
3.20 WILDFIRE			
a) Emergency Response Plans and Emergency Evacuation Plans	LS	None required	-
b) Exposure of Project Occupants to Wildfire Hazards	NI	None required	-
c) Installation and Maintenance of Infrastructure	NI	None required	-
d) Risks from Runoff, Post-Fire Slope Instability, or Drainage Changes	NI	None required	-
3.21 MANDATORY FINDINGS OF SIGNIFICANCE			
a) Findings on Biological and Cultural Resources	PS	Mitigation measures in Sections 3.4 and 3.5.	LS
b) Findings on Individually Limited but Cumulatively Considerable Impacts	PS	CUMUL-1: The project applicant or successors in interest shall be required to pay fair-share costs of improvements at the Hammatt Avenue/Campbell Boulevard intersection as described in Mitigation Measures TRANS-1 and TRANS-	LS

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
		3, along with an addition of a westbound left-turn lane on Campbell Boulevard east of Hammatt Avenue, a conversion of the southbound right-turn lane to a through/right-turn lane, and the addition of a northbound-to-eastbound overlap phase. CUMUL-2: The project applicant or successors in interest shall be required to pay fair-share costs of traffic signals or roundabouts at the Hammatt Avenue intersections with the SR 99 northbound ramps and the SR 99 southbound ramps as described in Mitigation Measure TRANS-2, along with the construction of a southbound right-turn lane on Hammett Avenue that extends to Campbell Boulevard. CUMUL-3: The project applicant or successors in interest shall be required to pay fair-share costs of a traffic signal at the Hammatt Avenue/F Street intersections. CUMUL-4: The project applicant or successors in interest shall select and implement one of two alternatives related to traffic queuing at the western driveway: 1) Reconfiguration of the westbound Campbell Boulevard approach to allow left turns from two lanes. This change would equalize traffic volumes in each lane and reduce the queue lengths. This would require that the layout of the Hammatt Avenue/Campbell Boulevard intersection be wider to accommodate the concurrent turning paths of two STAA trucks. The project applicant or successors in interest shall be required to pay fair-share costs of improvements proposed by this alternative. 2) Left turns at the western driveway shall be prohibited. If determined to be needed by the City, the project	

TABLE 1-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
		proponents shall fund construction of a median treatment or other measure acceptable to the City to prohibit left turns.	
c) Findings on Adverse Effects on Human Beings	PS	Mitigation measures for traffic impacts.	LS

2.0 PROJECT DESCRIPTION

2.1 Project Location

The 18.9-acre project site is located at the southeast corner of the intersection of Campbell Boulevard and Hammatt Avenue in northeastern Livingston, adjacent to SR 99 at the Hammatt Avenue interchange (see Figures 1-1 to 1-5). The project is located on three existing parcels identified as Assessor's Parcel Number (APN) 023-060-10, 023-070-012 and 023-070-013. The project would occupy only the portion of APN 023-060-10 located west of Campbell Avenue; the City is currently considering an administrative request for a Lot Line Adjustment (City Permit #2020-02) that will separate the project site portion of this parcel from the portion located east of Campbell Avenue.

The site is located on the USGS Cressey, California, 7.5-minute quadrangle map within Section 25, Township 6 South, Range 2 East, Mt. Diablo Base and Meridian. The approximate latitude and longitude of the project site are 37° 23' 05" North and 120° 42' 35" West, respectively.

2.2 Project Details

The project proposes to develop a freeway commercial site of approximately 18.9 acres as a truck stop, which would provide fuel, food, and maintenance services for commercial truck drivers; fuel, food, drinks, and other products for other SR 99 travelers; and convenience commercial services for residents in the vicinity. Currently, existing freeway services along SR 99 in Livingston are limited to existing development at the Winton Parkway interchange. In addition to the proposed project, the City has approved another highway commercial development across Hammatt Avenue from the site at the southwest corner of the intersection of Campbell Boulevard and Hammatt Avenue.

Project development would consist of two phases:

Phase 1

Phase 1 of the proposed project would be centered around an approximately 13,030 square foot travel center building that would include a convenience store, two quick-serve restaurants, restrooms, showers, a trucker's lounge, and administrative offices. A drive-thru lane would be provided adjacent to one of the quick-serve restaurant spaces. Outdoor seating would be installed in the area facing the truck service area. On the opposite side of the travel center building, a fuel dispensing area, covered by a canopy approximately 9,720 square feet in area, would be installed to serve mainly passenger automobiles. There would be ten dispensing stations in the area, each with two pumps, for a total of 20 dispensing pumps. Four aboveground storage tanks for automobile fuel would be installed in the southern portion of the project site. Three tanks would hold approximately 12,000 gallons, while the remaining tank would hold 8,000 gallons.

A truck service area for commercial trucks would be located east of the travel center building. This area would include nine diesel fuel dispensing stations, each with two pumps, for a total of 18 dispensing pumps. A canopy approximately 4,275 square feet in area would cover the dispensing stations. Adjacent to and immediately south of the dispensing area would be a CAT scale – a totally automated, full-length platform scale for weighing trucks. Next to the CAT scale would be four aboveground storage tanks, each holding approximately 12,000 gallons of diesel fuel.

A commercial building approximately 7,200 square feet in floor area would be located east of the truck fueling area. Approximately 4,200 square feet of this building would accommodate a truck tire center with two service bays and office and storage space. The remaining 3,000 square feet would be available for development of another quick-serve restaurant in Phase 2. Other features of the Phase 1 project include a fenced dog park and a recreational vehicle dump station, located south of the travel center building.

The remainder of the Phase 1 area would include circulation aisles and parking, including drive-through aisles for the automobile and truck fueling areas. A total of 86 parking spaces would be available for passenger vehicles in the travel center area, along with four spaces for disabled persons. Ten additional spaces would be provided for recreational vehicles, along with a dump station along the southern boundary of the project site for disposal of sewage. A total of 127 parking spaces would be available for commercial trucks in the truck service area. Site access would be provided by four proposed driveways off Campbell Avenue. Three of these driveways would provide access to the truck service area, while the remaining driveway would provide access for passenger vehicles.

The project would include frontage improvements along Campbell Avenue in accordance with City standards for a four-lane minor arterial. This would include two vehicle lanes approximately 12 feet in width in each direction, for a total of four lanes. It would also include a median left-turn lane approximately 16 feet in width, and two bike lanes approximately eight feet in width, one on each side of the road. Approximately 15 feet on each side of the improved Campbell Avenue would be used for pedestrian pathways and landscaping.

The project proposes the relocation of an existing detention basin from the western portion of the project site to the southeastern corner (Figure 2-3). The relocated basin will be sized as required to replace the capacity of the existing storm water detention basin and to accommodate additional runoff generated by proposed development of the project site.

The project would install new water and wastewater lines connecting to existing City facilities. The project water system would connect to the City system in two places: an existing line beneath adjacent Hammatt Avenue and the other at an existing line beneath Dwight Way to the east. The project wastewater line would connect to an existing main beneath Dwight Avenue to the east.

Phase 2

Phase 2 proposes the development of two additional quick-serve restaurants, each approximately 2,800 square feet in floor area, at the western end of the project site. An additional quick-serve restaurant would be located in the tire center building in the eastern portion of the site constructed during Phase 1. Each quick-serve restaurant would have a drive-thru lane and required circulation and parking, including 40 passenger vehicle parking spaces, 6 compact automobile spaces, and 2 spaces for disabled persons. An additional driveway off Campbell Avenue would be installed to provide access to this portion of the development.

Table 2-1 summarizes the total buildout of the project site after the two phases of development.

TABLE 2-1
PROJECT SITE DEVELOPMENT AT BUILDOUT

Proposed Development	**Units**
Phase 1	
Central building	13,030 square feet
Convenience store/restrooms	
Quick-serve restaurants	
Tire center building	7,200 square feet
Tire center	*4,200 square feet*
Phase 2 quick-serve restaurant	*3,000 square feet*
Automobile fuel dispensing area	20 fuel pumps
Truck fuel dispensing area	18 fuel pumps
Automobile parking spaces	100 spaces*
Truck parking spaces	127 spaces
Phase 2	
New quick-serve restaurants	5,600 square feet
Parking spaces	96 spaces

* Includes 4 spaces for disabled persons and 10 recreational vehicle spaces.

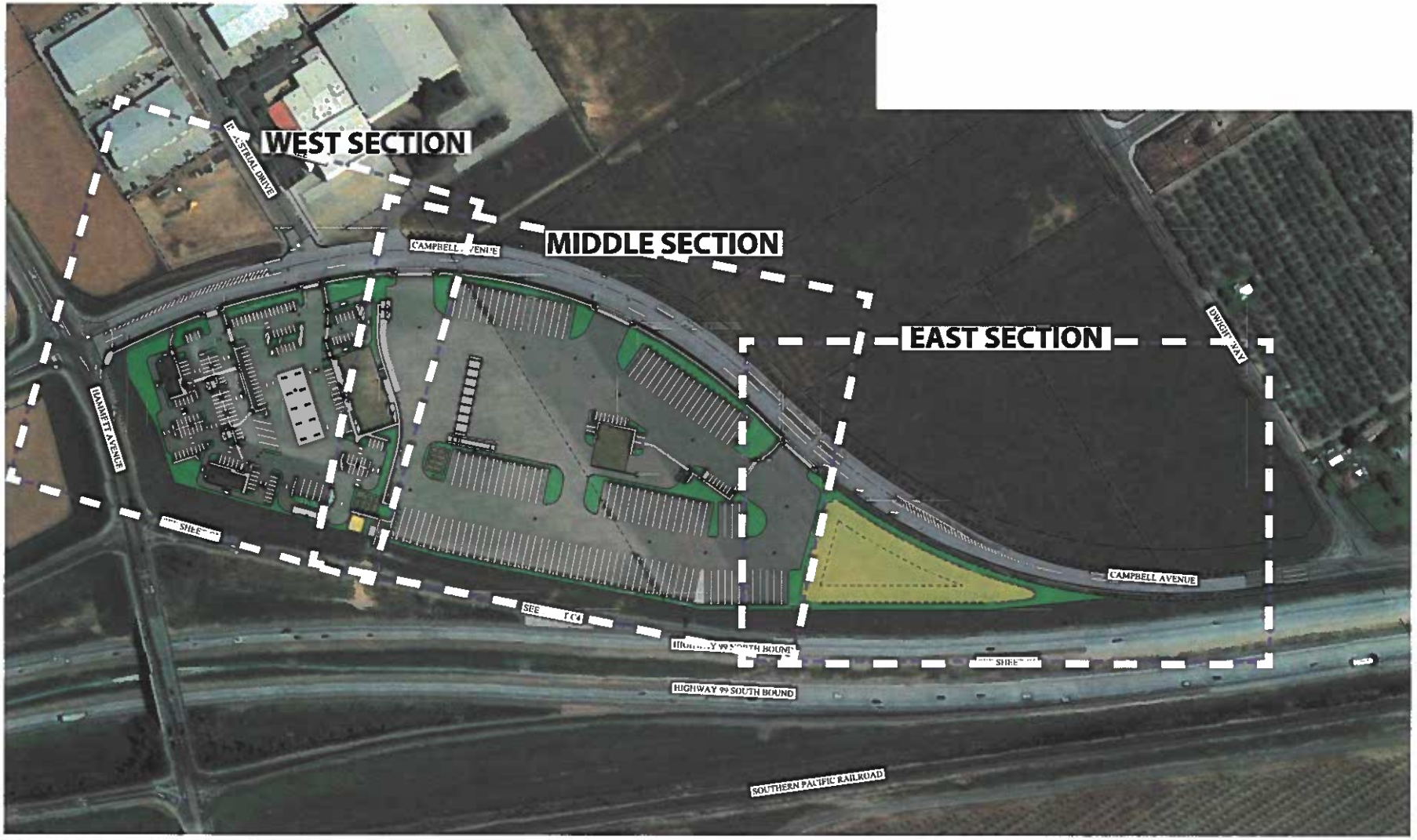
The project would be landscaped in accordance with City standards. A preliminary landscaping plan for the project site is shown on Figure 2-3. Street trees would be planted along the Campbell Avenue site frontage, and an evergreen hedge with large-spreading trees would be installed along the SR 99 frontage. Other trees and shrubs would be installed throughout the development. A lawn would be installed in the dog park area. The landscape and associated irrigation system would be designed to comply with the City's Water Efficient Landscape Ordinance.

2.3 Permits and Approvals

The current City General Plan designations for the project site are Highway Commercial, Service Commercial. The current zoning is C-3, Highway Service Commercial. The proposed project is consistent with the existing General Plan designations and zoning.

The project development would require approval of a Conditional Use Permit (CUP) by the City Council for the fuel dispensing stations and the quick-serve restaurants with drive-thru lanes. It also would require site plan approval and design review by the City Council, Should the project be approved, building and grading permits would need to be obtained from the City, but these permits would not require City Council approval.

Installation of proposed fuel dispensing pumps would require permits from the San Joaquin Valley Air Pollution Control District (SJVAPCD). Aboveground storage tanks would require preparation of spill plans consistent with U.S. Environmental Protection Agency (EPA) regulations. Installation of underground storage tanks would require approval from the Underground Storage Tank Program of the Central Valley Regional Water Quality Control Board (RWQCB). Other permits or approvals that may be required from other agencies include a Construction General Permit from the State Water Resources Control Board (SWRCB).



SOURCE: Hawkins & Associates Engineering, Inc.

BaseCamp Environmental

Figure 2-1A
SITE PLAN OVERVIEW

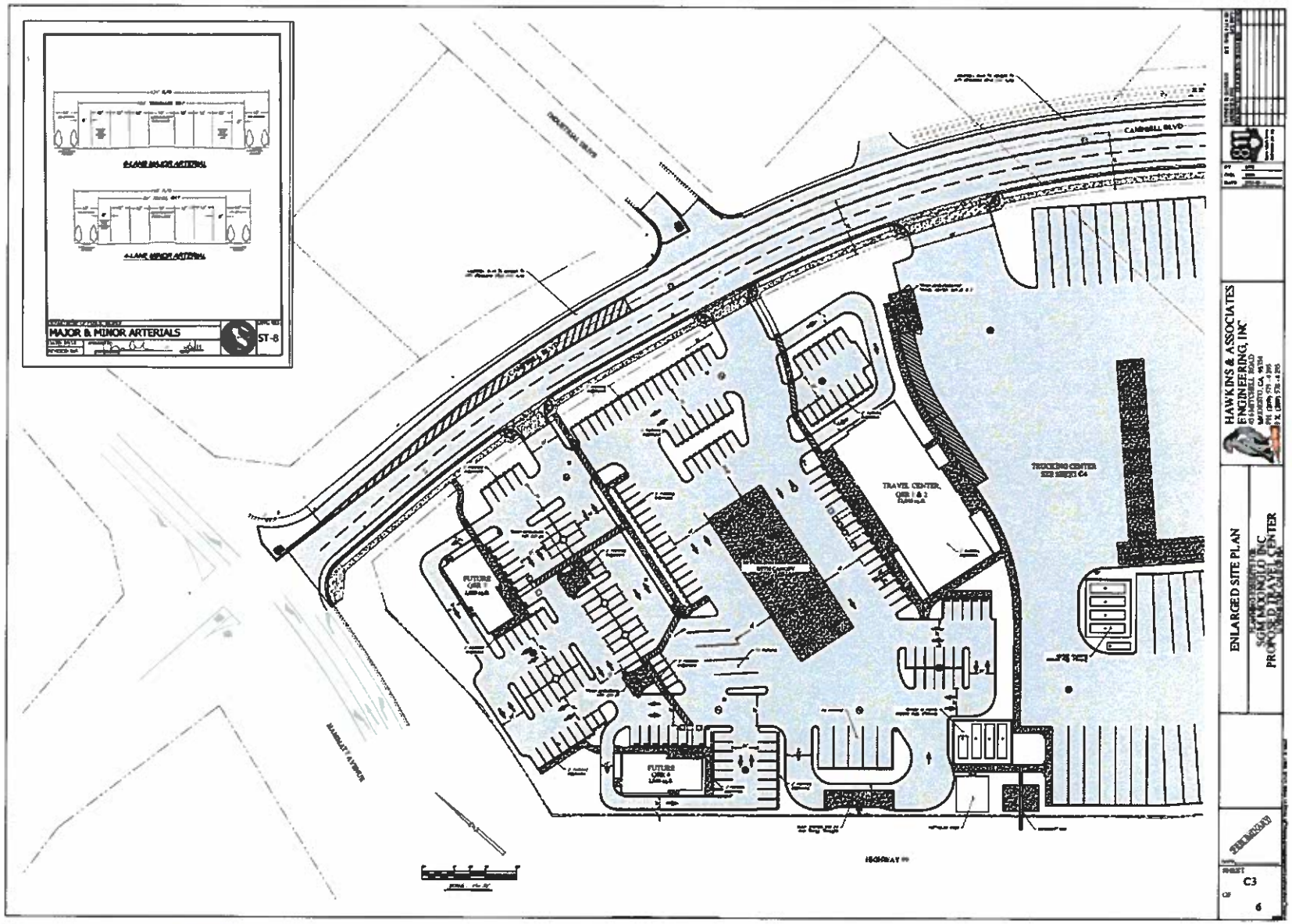


Figure 2-1B
SITE PLAN, WEST SECTION

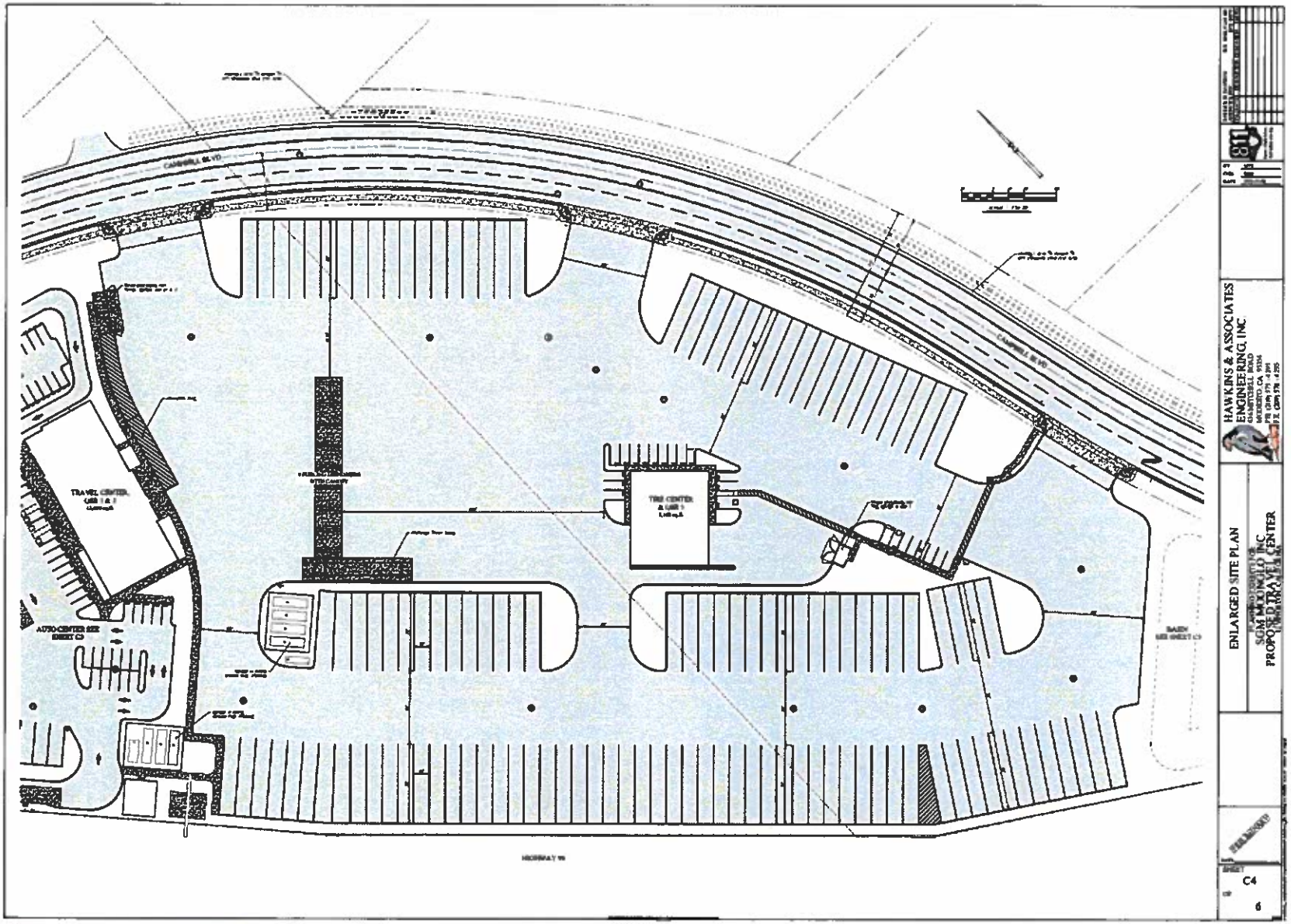


Figure 2-1C
SITE PLAN, MIDDLE SECTION

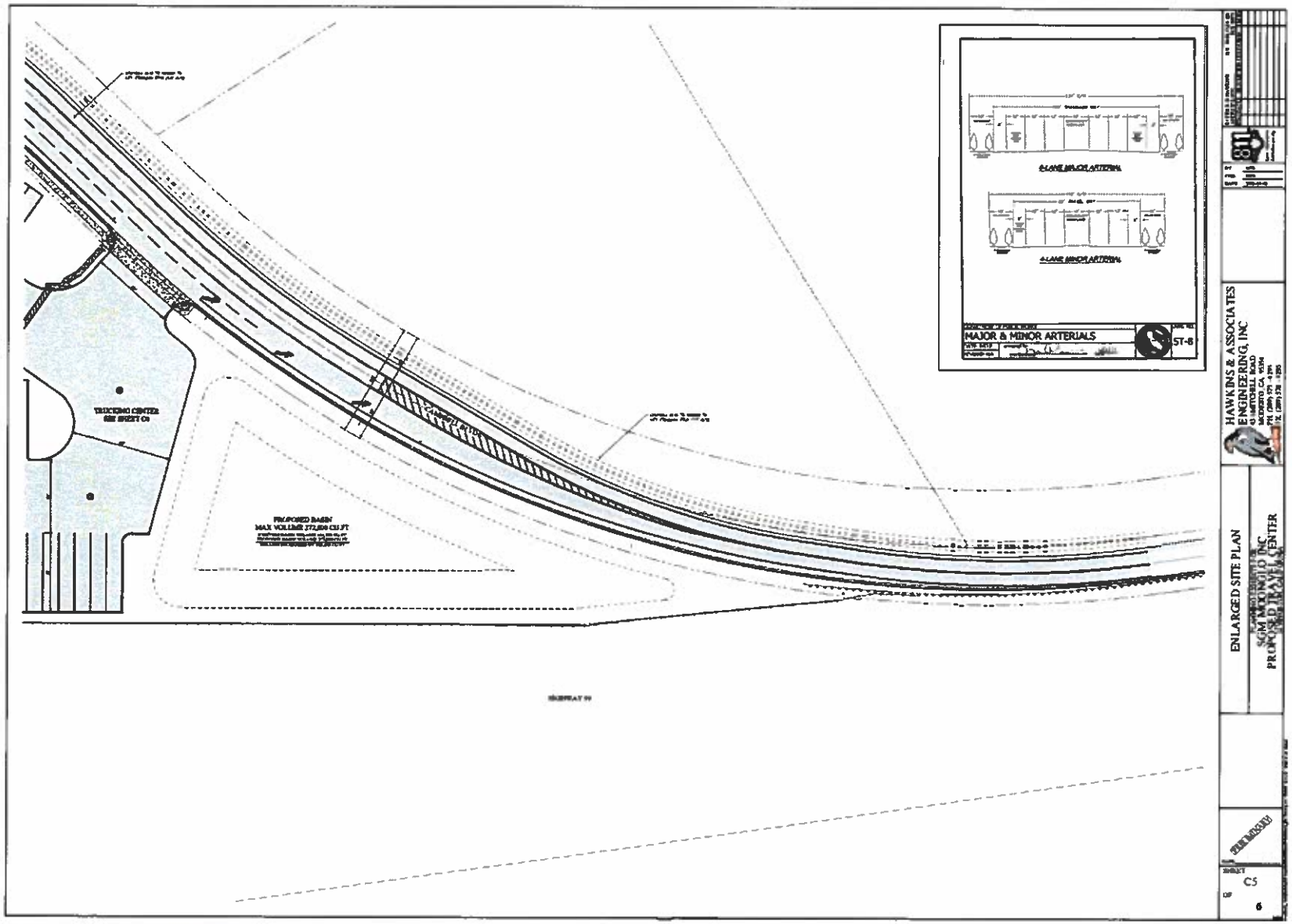


Figure 2-1D
SITE PLAN, EAST SECTION

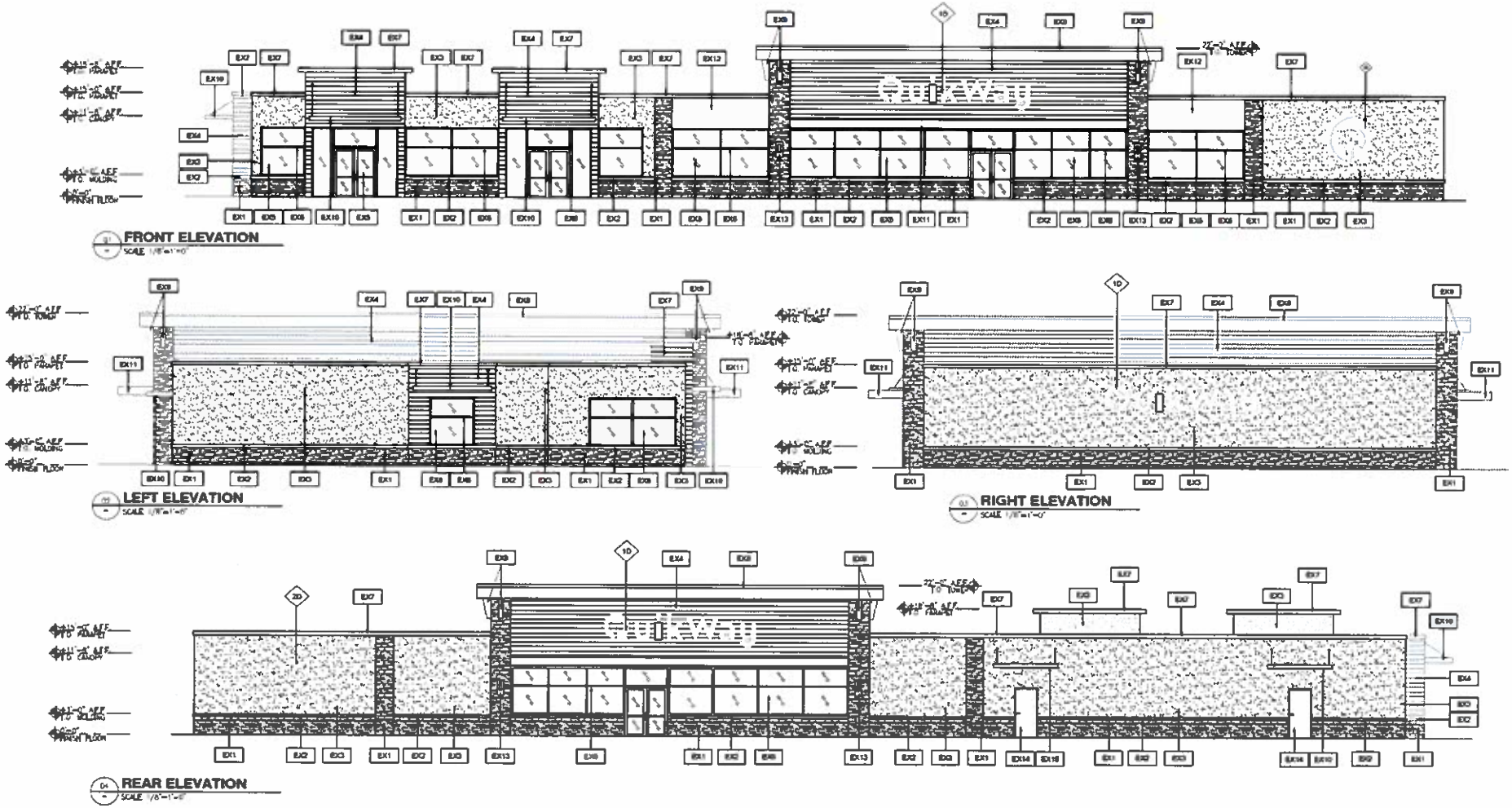
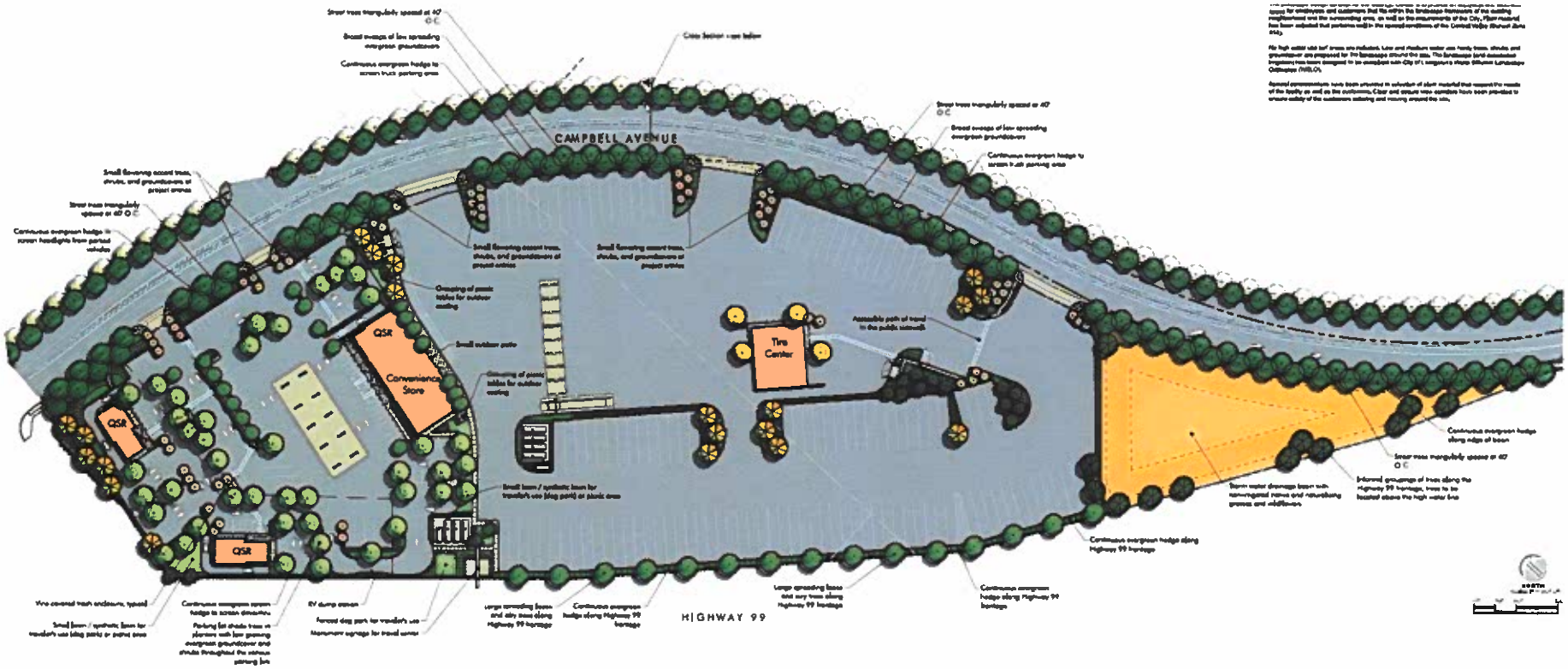


Figure 2-2
TRAVEL CENTER BUILDING ELEVATIONS



BaseCamp Environmental

Figure 2-3
PRELIMINARY LANDSCAPE PLAN

3.0 ENVIRONMENTAL CHECKLIST FORM

3.1 AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			✓	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			✓	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

NARRATIVE DISCUSSION

Environmental Setting

The project site is a vacant parcel containing mostly grasses and weeds. The site is in a developing but largely vacant area near the northeastern Livingston city limits, which has a mix of urban development and vacant land. Beyond the City limits, land is used primarily for agriculture. The project site is adjacent to the SR 99 freeway and east of the Hammatt Avenue interchange.

Views toward the south and west over the relatively flat site and surrounding lands are limited by the SR 99 and Hammatt Avenue fill structures, which extend approximately 20 feet above the site grade, along with existing development across SR 99. Views to the north across Campbell Boulevard include agricultural fields and a light industrial development. Distant views west, further north, and east are limited by existing residential and commercial development and associated tree growth.

Existing lighting in the project vicinity consists of pole lights along SR 99 at ramp intersections and in freeway merge areas. The intersection of Campbell Boulevard and Hammatt Avenue is lighted. Other lighting consists mainly of security and street lighting in nearby residential, commercial, and light industrial development.

Livingston Municipal Code Section 5-4-4 sets standards for landscaping. Landscaping shall be in scale with adjacent buildings and be of appropriate size at maturity to accomplish its intended purpose. Portions of a site not utilized for structures, parking,

circulation, storage, or other uses, shall be landscaped. Parking lots shall incorporate landscaping for all areas not used for vehicle storage, access, or circulation.

Livingston Municipal Code Section 5-4-6 sets performance standards for land uses in commercial and industrial zones, including the C-3 zone applied to the project site. Section 5-4-6(A)(1) states that odors, glare, or heat created by or resulting directly or indirectly from any use shall not be perceptible at any point beyond the lot boundaries where it abuts residential districts.

As required by Livingston Municipal Code Section 5-6-7, an application for Site Plan and Design Review is required for new development within the C-3 zone. The purpose of this review is to permit the city to evaluate site plans and designs of new and existing structures to assure compatibility, harmony in appearance in neighborhoods, reduction of negative aesthetic impacts and orderly development of the community. The City has adopted the *Design Guide for Development*. The *Design Guide* governs the physical design of development, including site planning, architecture, use of open spaces, lot configurations, circulation, and similar issues. The City Council approves site plans and design review, with the Livingston Planning Commission making recommendations.

Environmental Impacts and Mitigation Measures

a) Scenic Vistas.

The project involves the construction of mainly truck and passenger vehicle fueling and truck service facilities, quick-serve restaurants, and related site improvements. These single-level structures have the potential to partially obstruct distant views. However, as noted, these views are already substantially obstructed by the existing freeway fills and other surrounding development. Proposed structures would be consistent in height with other commercial and residential buildings in the vicinity and would not result in a significant effect on views.

The Merced County General Plan notes that scenic vistas in the County, where available, include views of the Coast Ranges to the west, the Sierra Nevada to the east, and the corridors of the Merced and San Joaquin Rivers (Merced County 2013). The project site is not near any of the stream corridors, and distant views of the mountain ranges are limited as described above. Project impacts on scenic vistas would be less than significant.

b) Scenic Resources.

There are no scenic resources on or in the immediate vicinity of the project site. The site is a vacant parcel mostly covered with grasses and weeds and surrounded by transportation facilities. The project site is flat and lacking in notable features, other than a few trees along Campbell Boulevard. There are no substantial aesthetic resources in the project vicinity, including natural landscapes, tree groves, or stream corridors.

There are two designated State scenic highways in Merced County: Interstate 5 from the Stanislaus County Line to State Route (SR) 152 (14.9 miles), and SR 152 from Interstate 5 to the Santa Clara County Line (13.8 miles). (Caltrans 2018). Both scenic highways are in western Merced County; neither are in the project vicinity. The site is designated and

zoned for commercial use, and the proposed project is consistent with these designations. The project would have no impact on scenic resources.

c) Visual Character and Quality.

As noted in b) above, the project site has no significant scenic resources. The visual character of the project would be consistent with the mixed urban development, vacant land, and agricultural landscapes in the vicinity. The project would comply with the landscaping provisions of Livingston Municipal Code Section 5-4-4, which would enhance the visual character of the project site. The project also would be subject to Site Plan and Design Review by the City, as specified in Livingston Municipal Code Section 5-6-7, which is intended to reduce negative impacts of non-aesthetic development. Compliance with these provisions of the Municipal Code would make project impacts on visual character and quality less than significant.

d) Light and Glare.

The project would add parking and circulation, signage, and building lighting to a site that currently has no lighting. However, the project is in an urbanizing area designated for highway commercial development and near an existing freeway interchange. Proposed lighting would be similar to lighting at existing and approved commercial and light industrial development in the area.

The City's Site Plan and Design Review requires a project to identify potentially reflective exterior building materials and their locations in relation to motorists and other persons within sight of the project. Also, site plans must identify any exterior light sources and areas subject to potential off-site illumination. Potential off-site lighting impacts would be evaluated during City site plan review for consistency with Livingston Municipal Code Section 5-4-6(A)(1), which limit glare impacts on any adjacent residential properties.

The project would implement a Lighting Plan that would be consistent with California's 2019 Building Energy Efficiency Standards, Title 24, Part 6, which includes lighting controls such as the use of light-emitting diode fixtures, time switches, and motion sensors for all exterior lighting. Pole-mounted light fixtures would be appropriately angled to minimize light exposure. Project impacts related to light and glare would be less than significant.

3.2 AGRICULTURE AND FORESTRY RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 non-agricultural use?				✓

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
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))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓

NARRATIVE DISCUSSION

Environmental Setting

The project site has been used for agriculture in the past; however, it is currently not in agricultural use. Surrounding lands also show evidence of past agricultural use, but they also are currently vacant. The project site and surrounding lands have been annexed to the City of Livingston and they are designated and zoned for urban development. In recent years, urban development has occurred in the vicinity, and agricultural operations have mostly ceased.

The Important Farmland Maps, prepared by the California Department of Conservation as part of its Farmland Mapping and Monitoring Program, designate the viability of lands for farmland use, based on the physical and chemical properties of the soils and other factors. The maps categorize farmland, in decreasing order of soil quality, as "Prime Farmland," "Unique Farmland," and "Farmland of Statewide Importance." Collectively, these categories are referred to as "Farmland" in the CEQA Checklist in Appendix G of the CEQA Guidelines and in this document. There are also designations for grazing land and for urban/built-up areas, among others. According to the 2016 Important Farmland Map of Northern Merced County, the project site is designated as Farmland of Local Importance (FMMP 2016). For the purposes of CEQA, the project site is not considered "Farmland."

Environmental Impacts and Mitigation Measures

a) Farmland Conversion.

As noted, the project site is designated by the Farmland Mapping and Monitoring Program as Farmland of Local Importance, which is cultivable land that does not meet the CEQA Guidelines definition of Farmland. Therefore, the project would not convert Farmland to non-agricultural uses. The project would have no impact on Farmland conversion.

b) Agricultural Zoning and Williamson Act.

As noted, the project site is designated and zoned for commercial uses. It is not zoned for agriculture. The Williamson Act is State legislation that seeks to preserve farmland by offering property tax breaks to farmers who sign a contract pledging to keep their land in agricultural use. The project site is not under a Williamson Act contract. The project would have no impact related to agricultural zoning or Williamson Act contracts.

c, d) Forest Land Conversion and Zoning.

There are no forest lands on the project site or in Merced County. Neither the project site nor lands in the vicinity are zoned as forest or timber lands. The project would have no impact on forest lands.

e) Indirect Conversion of Farmland and Forest Land.

The project site and surrounding lands have been designated and zoned for urban development by the City. Streets and infrastructure have been extended to the area in support of planned development. The project site would connect to existing infrastructure. The project site and adjacent parcels are designated Farmland of Local Importance, which is not considered Farmland for CEQA purposes. As noted, there are no forest lands in the vicinity. The project would have no impact on indirect conversion of Farmland or forest land.

3.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollutant control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable Air Quality Attainment Plan?			✓	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			✓	
c) Expose sensitive receptors to substantial pollutant concentrations?			✓	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓	

NARRATIVE DISCUSSION

Environmental Setting

Air Quality Status

The project site is within the San Joaquin Valley Air Basin. The San Joaquin Valley Air Pollution Control District (SJVAPCD), which includes Merced County, has jurisdiction over most air quality matters in the Air Basin. The SJVAPCD is tasked with implementing programs and regulations required by both the federal and California Clean Air Acts. Under their respective Clean Air Acts, both the State of California and the federal government have established ambient air quality standards for six criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. The State of California has four additional criteria pollutants under its Clean Air Act.

Table 3-1 shows the current attainment status of the Air Basin relative to the federal and State ambient air quality standards for criteria pollutants. Except for ozone and particulate matter, which are discussed below, the Air Basin is in attainment of, or unclassified for, all federal and State ambient air quality standards.

TABLE 3-1
SAN JOAQUIN VALLEY AIR BASIN ATTAINMENT STATUS

	Designation/Classification	
Criteria Pollutant	**Federal Primary Standards**	**State Standards**
Ozone - One hour	No Federal Standard	Nonattainment/Severe
Ozone - Eight hour	Nonattainment/Extreme	Nonattainment
PM_{10}	Attainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide (NO_x)	Attainment/Unclassified	Attainment
Sulfur Dioxide (SO_x)	Attainment/Unclassified	Attainment
Lead	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: SJVAPCD 2020.

Air Pollutants of Concern

The San Joaquin Valley Air Basin is designated a non-attainment area for ozone. Ozone is not emitted directly into the air. It is formed when reactive organic gases (ROG) and nitrogen oxides (NO_x), referred to as "ozone precursors," react in the atmosphere in the presence of sunlight. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. The SJVAPCD currently has a 2007 Ozone Plan and a 2013 Plan for the Revoked 1-Hour Ozone Standard for the Air Basin to attain federal ambient air quality standards for ozone.

The Air Basin is also designated a non-attainment area for respirable particulate matter, a mixture of solid and liquid particles suspended in air, including dust, pollen, soot, smoke, and liquid droplets. Particulate matter is generated by a mix of rural and urban sources, including agricultural activities, industrial emissions, dust suspended by vehicle traffic, and secondary aerosols formed by reactions in the atmosphere. Health concerns associated with suspended particulate matter focus on those particles small enough to reach the lungs when inhaled; consequently, both the federal and state air quality standards for particulate matter apply to particulates 10 micrometers or less in diameter (PM_{10}) as well as to particulates less than 2.5 micrometers in diameter ($PM_{2.5}$), which are carried deeper into the lungs. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, coughing, bronchitis, and respiratory illnesses in children. The SJVAPCD currently has a 2007 PM_{10} Maintenance Plan to maintain the Air Basin's attainment status for federal PM_{10} ambient air quality standards, and a 2008 $PM_{2.5}$ Plan for the Air Basin to attain federal $PM_{2.5}$ ambient air quality standards.

Carbon monoxide (CO) is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air, unlike ozone. The main source of CO in the San Joaquin Valley is on-road motor vehicles (SJVAPCD 2015). The San Joaquin Valley Air Basin is in attainment/unclassified status for CO; as such, the SJVAPCD has no CO attainment plans. High CO concentrations may occur in areas of limited geographic size ordinarily associated with highly congested traffic - sometimes referred to as "hot spots."

In addition to the criteria pollutants, the California Air Resources Board has also identified other air pollutants as toxic air contaminants (TACs) - pollutants that may cause acute serious, long-term effects, such as cancer, even at low levels. Diesel particulate matter is the most common TAC, generated mainly as a product of combustion in diesel engines. Emissions from fuel dispensing are regulated as TACs, as discussed below. Other TACs are less common and are typically associated with industrial activities.

Air Quality Rules and Regulations

As previously noted, the SJVAPCD has jurisdiction over most air quality matters in the Air Basin. It implements the federal and California Clean Air Acts, and the applicable attainment and maintenance plans, through local regulations. The SJVAPCD has developed plans to attain State and federal standards for ozone and particulate matter,

which include emissions inventories to measure the sources of air pollutants and the use of computer modeling to estimate future levels of pollution and make sure that the Valley will meet air quality goals (SJVAPCD 2015). A State Implementation Plan for carbon monoxide has been adopted by the California Air Resources Board (ARB) for the entire state. The SJVAPCD regulations that would be applicable to the project are summarized below.

Regulation VIII (Fugitive Dust PM10 Prohibitions)

Rules 8011-8081 are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out and, landfill operations, among others.

Rule 4101 (Visible Emissions)

This rule prohibits emissions of visible air contaminants to the atmosphere and applies to any source operation that emits or may emit air contaminants, including construction.

Rule 9510 (Indirect Source Review)

Rule 9510, also known as the Indirect Source Rule, is intended to reduce or mitigate emissions of NO_x and PM_{10} from new development in the SJVAPCD including construction and operational emissions. This rule requires specific percentage reductions in estimated on-site construction and operation emissions, and/or payment of off-site mitigation fees for required reductions that cannot be met on the project site. Construction emissions of NO_x and PM_{10} exhaust must be reduced by 20% and 45%, respectively. Operational emissions of NO_x and PM_{10} must be reduced by 33.3% and 50%, respectively. The Indirect Source Rule applies to commercial development projects of 2,000 square feet and larger. Based on this criterion, the project would be subject to Rule 9510.

In addition, the SJVAPCD regulates the construction and improvement of facilities with potential air toxic emissions, including fueling stations. Toxic substances in gasoline include benzene, toluene, and naphthalene, among others. SJVAPCD rules applicable to fueling stations include:

Rule 2201 (New and Modified Stationary Source Review Rule)

New stationary sources and modifications of existing stationary sources that may emit criteria pollutants must obtain an Authority to Construct and Permit to Operate the proposed facility. Emissions that exceed impact thresholds must include emission controls and may require additional mitigation. To protect local and regional public health and safety, fueling station applications are reviewed under Rule 2201 for compliance with SJVAPCD rules. SJVAPCD review of these applications includes consideration of proposed vapor recovery equipment and whether the controlled volatile organic compound emissions require offsets or trigger public notice requirements.

Rule 4621 (Gasoline Transfer into Stationary Storage Containers, Delivery Vessels and Bulk Plants)

Rule 4621 prohibits the transfer of gasoline from a delivery vessel into a stationary storage container unless the container is equipped with an ARB-certified permanent submerged fill pipe and ARB certified pressure-vacuum relief valve and utilizes an ARB-certified Phase I vapor recovery system.

Rule 4622 (Transfer of Gasoline into Vehicle Fuel Tanks)

Rule 4622 prohibits the transfer of gasoline from a stationary storage container into a motor vehicle fuel tank with a capacity greater than five gallons, unless the gasoline dispensing unit used to transfer the gasoline is equipped with and has in operation an ARB-certified Phase II vapor recovery system.

Environmental Impacts and Mitigation Measures

In 2015, the SJVAPCD adopted a revised Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI). GAMAQI defines an analysis methodology, thresholds of significance, and mitigation measures for the assessment of air quality impacts for land development projects within SJVAPCD's jurisdiction. Table 3-2 shows the CEQA thresholds for significance for pollutant emissions within the SJVAPCD. The significance thresholds apply to emissions from both project construction and project operations and are independent of toxic emissions associated with fuel storage and dispensing.

TABLE 3-2
ESTIMATED PROJECT CONSTRUCTION AIR POLLUTANT EMISSIONS

Pollutant	SJVAPCD Significance Threshold[1]	Unmitigated Emissions[2]	Mitigated Emissions[2]
ROG	10	0.13	0.13
NO_x	10	0.67	0.67
CO	100	0.62	0.62
SOx	27	<0.01	<0.01
PM_{10}	15	0.06	0.05
$PM_{2.5}$	15	0.04	0.04

[1] Tons per year.
[2] Maximum emissions.
Sources: California Emissions Estimator Model v. 2016.3.2; SJVAPCD 2015

Construction of the project would involve the use of heavy equipment powered by diesel or other internal combustion engines. The California Emissions Estimator Model (CalEEMod) was used to estimate total construction emissions from the proposed project. The CalEEMod results are shown in Appendix A of this document and in Table 3-2, along with the CEQA thresholds of significance set forth in the GAMAQI. "Mitigated emissions" are those that occur with implementation of SJVAPCD Regulation VIII, which is designed to reduce fugitive dust emissions during construction activities.

Emissions from project operations would primarily be from vehicle trips to and from the project site. Total annual emissions estimated at completion and occupancy of the proposed project, assumed to occur in 2020, are shown in Table 3-3, along with the CEQA thresholds of significance set forth in the GAMAQI. "Mitigated emissions" are the result of the application of project features and regulatory requirements that reduce air pollutant and greenhouse gas (GHG) emissions associated with the project. Section 3.8, Greenhouse Gas Emissions, discusses these features and requirements in more detail.

TABLE 3-3
ESTIMATED AIR POLLUTANT EMISSIONS FROM PROJECT OPERATIONS

Pollutant	SJVAPCD Significance Threshold	Unmitigated Emissions	Mitigated Emissions
ROG	10	2.89	2.80
NO_x	10	11.09	10.60
CO	100	19.76	17.74
SOx	27	0.06	0.05
PM_{10}	15	4.42	3.59
$PM_{2.5}$	15	1.22	1.00

Note: All figures are in tons per year.
Sources: California Emissions Estimator Model v. 2016.3.2; SJVAPCD 2015.

a) Air Quality Plan Consistency.

SJVAPCD has attainment plans for ozone and particulate matter, while the State has a CO attainment plan. As indicated in Tables 3-2 and 3-3, project construction and operational emissions would not exceed SJVAPCD significance thresholds for criteria pollutants, except for NO_x operational emissions. However, the project would be required to comply with SJVAPCD Rule 9510, which requires reductions of NO_x operational emissions by 33.3%. Application of this rule would reduce NO_x operational emissions below the SJVAPCD significance threshold. Based on this, the project would be consistent with adopted reduction plans for these pollutants. Project impacts related to air quality plans would be less than significant.

b) Cumulative Emissions.

The project would contribute emissions of ozone and particulate matter to the San Joaquin Valley Air Basin, which is currently in non-attainment status for these two pollutants. Although the operational emissions, except for NO_x, would not exceed the SJVAPCD significance thresholds (see Table 3-3), the project would contribute emissions in an Air Basin not in compliance with federal and state air quality standards for ozone and particulate matter. Therefore, the project could result in a cumulatively considerable net increase of these two criteria pollutants.

Development proposed by the project is consistent with the land use designations of the Livingston General Plan. The General Plan EIR analyzed the potential impacts of development anticipated in the General Plan on air quality. The EIR noted that if an individual project, such as the General Plan update, results in an incremental contribution to a non-attainment condition, significant cumulative impacts would result. The EIR stated that policies, regulations, and land use measures in the General Plan would reduce impacts, and the EIR notes that emissions are expected to decrease from then-extant conditions due to the use of cleaner fuels and vehicles and more efficient location of complementary land uses. Nevertheless, the EIR concluded that General Plan impacts on air quality were significant and unavoidable (City of Livingston 1999b). In certifying the General Plan EIR in 1999, the City Council adopted a Statement of Overriding Considerations that acknowledged the impact on air quality but found other considerations outweighed the adverse impact. This Statement of Overriding Considerations remains operative.

According to CEQA Guidelines Section 15152(d), where an EIR has been prepared and certified for a plan, any lead agency for a later project pursuant to or consistent with the plan should limit the project EIR or negative declaration to effects which were not examined as significant effects on the environment in the prior EIR, or are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means. The cumulative impacts on air quality associated with the project had already been examined in the General Plan EIR, and these impacts were found to not be susceptible to substantial reduction or avoidance by any changes to the project. Therefore, the project's cumulative impacts on air quality do not require additional consideration under CEQA and are considered less than significant in this analysis.

c) Exposure of Sensitive Receptors to Pollutants.

The project site is in an area of mixed land uses, but most lands in the immediate vicinity of the site are vacant or undeveloped. Residences and care facilities are considered land uses sensitive to air pollutant emissions. The nearest sensitive land use is a residential subdivision more than 1,000 feet to the northwest. As noted, project construction and operational emissions would be below SJVAPCD significance thresholds for criteria pollutants, except for NO_x operational emissions. However, these emissions would be reduced below their significance threshold through compliance with SJVAPCD Rule 9510. Moreover, implementation of applicable SJVAPCD rules and regulations would further reduce emissions, making them even less likely to reach these sensitive land uses in quantities of concern.

CO hotspots have the potential to expose receptors to emissions that violate state and/or federal CO standards, even if the broader Air Basin is in attainment of these standards. The GAMAQI indicates that a project would create no violations of the carbon monoxide standards if neither of the following criteria are met by (SJVAPCD 2015):

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or

- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity (See Section 3.17, Transportation, for an explanation of LOS).

As noted in Section 3.17, Transportation, the intersections affected by the project are expected to maintain at least the minimum acceptable LOS of C, as set by the City, with the implementation of mitigation measures. Therefore, the project would have no adverse impact related to CO emissions.

Fueling station operations would involve the dispensing of gasoline, which can emit vapors that are considered toxic. SJVAPCD Rules 4621 and 4622 would require the installation of vapor recovery systems, which would reduce the potential exposure of people using fuel pumps to potentially toxic emissions. The SJVAPCD may impose other conditions as warranted as part of its review conducted under SJVAPCD Rule 2201 as needed to prevent adverse air toxics effects on sensitive receptors in the project vicinity. The potential exposure of people to pollutant emissions is considered less than significant.

d) Odors and Other Emissions.

Fueling station and restaurant operations may include the emissions of odors associated with the dispensing of fuel and the cooking of food. Fuel odors would be localized and are not expected to spread beyond the fuel dispensing area, particularly since the project would be required to comply with SJVAPCD Rules 4621 and 4622 as discussed above. Cooking odors are not typically considered adverse. As noted in d) above, land uses potentially sensitive to odors are at a substantial distance from the project site which would in any event result in substantial dispersal of odors generated from the project site. Project impacts related to odors would be less than significant.

3.4 BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Game or U.S. Fish and Wildlife Service?			✓	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				✓
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?				✓
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?				✓
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			✓	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?				✓

NARRATIVE DISCUSSION

Environmental Setting

The project site is relatively flat with sandy soil. Vegetation consists mainly of grasses and weeds, with sparse growth throughout most of the project site and thicker growth along Campbell Boulevard. The City General Plan states that the natural vegetation of the Livingston area historically consisted of vast stretches of savanna traversed by riparian corridors along the Merced River and its tributaries. None of these corridors or corridor remnants are in the project vicinity. Natural vegetation communities in the Livingston vicinity have been all but eliminated as a result of agricultural and urban development.

The reduction of natural vegetation communities has also reduced the amount of suitable habitat for special-status plant and wildlife species. Special-status species are plant or wildlife species that are legally protected under the federal and/or California Endangered Species Act. They are also species considered rare or endangered as defined by CEQA Guidelines Section 15380, such as species identified on Lists 1A, 1B and 2 in the Inventory of Rare and Endangered Vascular Plants of California by the California Native Plant Society, and species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status.

According to the Livingston General Plan, some migratory birds do pass through the Livingston area, but Livingston is not a known year-round or seasonal habitat for migratory birds. The project site was inspected by BaseCamp Environmental staff for the presence of wetlands, riparian areas, other sensitive habitats, or indications of special-status species use. The project site does not contain any wetlands, riparian areas, oak trees, sensitive habitats, or indications of use by special-status species.

Environmental Impacts and Mitigation Measures

a) Effects on Special-Status Species.

A search of the California Natural Diversity Database, the results of which are available in Appendix B, indicated the presence of 14 special-status species in the Cressey quadrangle map area, within which the project site is located. Of these species, four are fish species for which no streams are available on the project site. Both plant special-status species require vernal pools or seasonal wetlands, neither of which are found on the project site. Suitable habitat is not available on the project site for the western pond turtle or for the identified lizard species. The project site contains no elderberry shrubs, which provide habitat for the valley elderberry longhorn beetle. No suitable nesting habitat is available for the tricolored blackbird, and there is no substantial habitat for white-tailed kite and Cooper's hawk.

The one special-status species that may have more than a transitory occurrence on the project site is Swainson's hawk, a migratory bird listed as threatened under the California Endangered Species Act. Swainson's hawks are found in the Central Valley primarily during their breeding season from mid-March to late August; a population is known to winter in the San Joaquin Valley. This species is known to forage in agricultural fields and annual grasslands. However, the quality of foraging habitat on the project site is low and the site is small relative to Swainson's hawk forging area. There are no large trees close to the site that would be suitable for Swainson's hawk nesting. Because of this, Swainson's hawk is unlikely make any substantial use of the project site. Project impacts on special-status species would be less than significant.

b) Riparian and Other Sensitive Habitats.

There are no streams located on or adjacent to the project site; therefore, the project would not affect stream habitats. Other sensitive habitats that may be found in the San Joaquin Valley include vernal pools, oak woodlands, and native grasslands. The California Natural

Diversity Database search indicated the presence of the Northern Hardpan Vernal Pool community in the Cressey quadrangle map area. However, none of these habitats exist on the project site. The project would have no impact on sensitive habitats.

c) Wetlands.

As noted, no wetlands were found on the project site. There are no streams or other Waters of the United States either on or adjacent to the project site. The project would have no impact on wetlands.

d) Fish and Wildlife Movement.

There are no streams either on or adjacent to the project site, so no fish movements would be affected by the project. The site is isolated from wildlife habitat by existing urban development and streets. Site development would not adversely affect wildlife movement. The lack of foraging habitat and trees would make it unlikely that migratory birds would make substantial use the project site for foraging or nesting. The project would have no impact on fish and wildlife movement.

e) Local Biological Requirements.

Livingston Municipal Code Section 5-4-8 seeks to protect and preserve mature trees on private property. A permit shall be required for the removal of any mature tree measuring at least six inches in diameter, as measured four feet above grade at the base of the tree. The City requires a five to one (5:1) replacement ratio for removal of any protected tree, although the City has discretion to reduce this ratio if trees larger than the minimum required 24-inch box size are used as replacements. As noted in Section 3.1, Aesthetics, there are a few trees on the project site along Campbell Boulevard. Should these trees meet the criteria, then the provisions of Section 5-4-8 would apply. Project impacts on local biological requirements would be less than significant.

f) Conflict with Habitat Conservation Plans.

Habitat Conservation Plans are plans prepared under Section 10 of the federal Endangered Species Act that allow activities that could result in an "incidental take" of listed species to occur, with implementation of measures to mitigate impacts on listed species and to monitor the effectiveness of the mitigation. Natural Community Conservation Plans are California counterparts to Habitat Conservation Plans but are broader in their geographical range and conservation objectives, which include protection of ecosystems. There are no Habitat Conservation Plans, Natural Community Conservation Plans, or similar plans that apply to the project site. The project would have no impact on this issue.

3.5 CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?				✓
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?		✓		
c) Disturb any human remains, including those interred outside of formal cemeteries?		✓		

NARRATIVE DISCUSSION

Environmental Setting

Prehistoric Era

The City of Livingston lies within the historic territory of the Yokuts, which ranged from the Tehachapi Mountains to modern-day Stockton in the San Joaquin Valley. Section 3.18, Tribal Cultural Resources, discusses the Yokuts in more detail.

Several archaeological surveys had been conducted in the Livingston area prior to and during the preparation of the General Plan EIR. All survey efforts have yielded negative results. The General Plan EIR concluded that the Livingston area was probably never a prehistoric population center, and minor cultural resource sites that probably existed at one time have been largely destroyed by extensive agricultural operations (City of Livingston 1999b).

Historic Era

Livingston was originally named Cressey, after a major landowner on whose property a railroad station was established by the Santa Fe Railroad. Renamed Livingston, reportedly in honor of the explorer Dr. David Livingstone, the first known plat of the town dates from 1872. Livingston became a shipping and supply center for surrounding farms and ranches.

In the early 20th century, the Yamato Colony, an agricultural cooperative founded by Japanese Americans, was established on land between Livingston and the community of Cressey. In 1996, the State Route (SR) 99 bypass around Livingston was completed, thereby eliminating the last traffic signal on SR 99 between Sacramento and Bakersfield (Fimrite 1996). The project site is adjacent to this bypass.

The Livingston General Plan EIR evaluated the potential for significant historical resources in Livingston. Previous studies had identified only two potential historical resources in Livingston: the Livingston Canal in the northern part of Livingston and the Arena Canal

passing through the southern portion of the City. Both canals were considered ineligible for inclusion in the National Register of Historic Places.

The Central California Information Center at California State University Stanislaus conducted a search of records for historical and archaeological resources. Appendix C contains the results of the search. The Central California Information Center noted that the project site has been subject to seven previous cultural resource investigations. There are no formally recorded prehistoric or historic archaeological resources or historic buildings within the immediate vicinity of the project area. The project site has a low sensitivity for the possible discovery of prehistoric or historic resources.

Environmental Impacts and Mitigation Measures

a) Historical Resources.

A records search conducted by the Central California Information Center found no documented historical or archaeological resources in the immediate vicinity of the project site and indicated that the site has a low sensitivity for the possible discovery of prehistoric resources. The project site does fall within the proposed boundaries of the Merced Irrigation District, which was created between 1870-1922; however, there are no recorded resources associated with the District within the project site.

There are no existing structures on the site that might be considered historic. The site and surrounding landscape have been substantially modified by agricultural activities and later by construction of the SR 99 bypass and the adjacent City streets. The project would have no impact on historical resources.

b) Archaeological Resources.

As noted in a) above, a records search conducted by the Central California Information Center found no documented prehistoric resources in the immediate vicinity of the project site. Given past disturbance of the project site by agricultural activities and road development, it is unlikely that any archaeological resources would be found intact. However, it is conceivable that excavation associated with the project could unearth archaeological materials of significance that are currently unknown. Mitigation described below would establish procedures to address archaeological discoveries if they should occur, which would reduce any potential impacts to a level that would be less than significant.

Mitigation Measures:

CULT-1: If any subsurface cultural resources are encountered during construction of the project, all construction activities in the vicinity of the encounter shall be halted until a qualified archaeologist can examine these materials, make a determination of their significance and, if significant, recommend further mitigation measures that would reduce potential effects to a level that is less than significant. Recommended measures could include, but are not limited to, 1) preservation in place, or 2) excavation, recovery, and curation by qualified professionals. The City

of Livingston Community Development Department shall be notified, and the project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation measures and documenting mitigation efforts in a written report to the City's Community Development Department, consistent with the requirements of the CEQA Guidelines.

c) Human Burials.

As with other cultural resources, it is not expected that any human burials, particularly those of Native Americans, would be uncovered by construction on the project site, given its extensive disturbance and distant location from probable Native American settlements (see Section 3.18, Tribal Cultural Resources). However, it is conceivable that excavation associated with the project could uncover a previously unknown burial.

CEQA Guidelines Section 15064.5(e) describes the procedure to be followed when human remains are uncovered in a location outside a dedicated cemetery. All work in the vicinity of the find shall be halted, and the County Coroner shall be notified to determine if an investigation of the death is required. If the Coroner determines that the remains are Native American in origin, then the Coroner must contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission shall identify the most likely descendants of the deceased Native American, and the most likely descendants may make recommendations on the disposition of the remains and any associated grave goods with appropriate dignity. If a most likely descendant cannot be identified, the descendant fails to make a recommendation, or the landowner rejects the recommendations of the most likely descendant, then the landowner shall rebury the remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance.

Mitigation presented below would require compliance with CEQA Guidelines Section 15064.5(e). Implementation of the mitigation measure would ensure that any human remains and associated grave goods encountered during project construction would be treated with appropriate dignity. Project impacts on human remains after mitigation would be less than significant.

Mitigation Measures:

CULT-2: If project construction encounters evidence of human burial or scattered human remains, the contractor shall immediately notify the County Coroner and the City, which shall in turn notify the appropriate tribal representatives. The City shall notify other federal and State agencies as required. The City will be responsible for compliance with the requirements of California Health and Safety Code Section 7050.5 and with any direction provided by the County Coroner. If the human remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission, which will notify and appoint a Most Likely Descendant. The Most Likely Descendant shall work with the City and a qualified archaeologist to

decide the proper treatment of the human remains and any associated funerary objects in accordance with California Public Resources Code Sections 5097.98 and 5097.991. Avoidance is the preferred means of disposition of the burial resources.

3.6 ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?			✓	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			✓	

NARRATIVE DISCUSSION

Environmental Setting

Electricity and natural gas are major energy sources for residences and businesses in California. In Merced County, electricity consumption in 2016 totaled approximately 3,559 million kilowatt-hours (kWh), of which approximately 2,840 million kWh were consumed by non-residential uses and the remainder by residential uses (CEC 2018a). In 2018, natural gas consumption in Merced County totaled approximately 120 million therms, of which approximately 96 million therms were consumed by non-residential uses and the remainder by residential uses (CEC 2018b).

Motor vehicle use accounts for substantial energy usage. The Merced County Association of Governments (MCAG) estimated total vehicle miles traveled (VMT) within Merced County and its cities were approximately 2,725,000 miles daily in 2016 (MCAG 2018a). Estimated motor vehicle fuel consumption in Merced County in 2015 was 304,600 gallons of gasoline and 209,600 gallons of diesel fuel per day. Fuel consumption per capita was 1.89 gallons per day (MCAG 2018b).

The State of California has adopted comprehensive energy efficiency standards as part of its Building Standards Code, California Code of Regulations, Title 24. Part 6 of Title 24 is referred to as the California Energy Code. 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, and interior environmental quality. It also mentions energy efficiency, although CALGreen defers to the Energy Code for actions. The City has adopted the 2019 versions of both the California Energy Code and CALGreen.

In 2002, California adopted a Renewables Portfolio Standard, and subsequently modified it in 2006 and 2011. Under the 2011 modifications, all electricity retailers in the state must generate 20% of electricity they sell from renewable energy sources (i.e., solar, wind, geothermal, hydroelectric from small generators, etc.) by the end of 2013, 25% by the end of 2016, and 33% by the end of 2020. As of the end of 2017, California derived 30% of its electricity from renewable sources, which is within 3% of the 2020 target and within 20% of the 2030 target (CEC 2018a). In 2015, SB 350 was signed into law, which increased the electricity generation requirement from renewable sources to 50% by 2030. Most recently, in 2018, SB 100 was enacted, which accelerated the schedule for 50% electricity generation from renewable sources to 2026 and set a goal of 60% electrical generation from renewable sources by 2030. It also set the goal that zero-carbon resources will supply 100% of electricity to California by 2045.

Environmental Impacts and Mitigation Measures

a) Project Energy Consumption.

Project construction would involve fuel consumption and use of other non-renewable 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. This energy use would not be considered wasteful, inefficient, or unnecessary.

Electricity may be used for equipment operation during construction activities. It is expected that more electrical construction equipment would be used in the future, as it would generate fewer air pollutant emissions. This electrical consumption would be consistent with construction activities of a similar character; therefore, the use of electricity in construction activities would not be considered wasteful, inefficient, or unnecessary, especially since fossil fuel consumption would be reduced. Moreover, 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.

Based on the most recent Commercial Energy Consumption Survey by the U.S. Energy Information Administration, proposed development on the project site is estimated to consume approximately 1.4 million kWh of electricity and 2.8 million cubic feet of natural gas annually (EIA 2016). The project would be required to comply with applicable provisions of the adopted California Energy Code and CALGreen in effect at the time of project approval. The provisions of these codes are intended to increase energy efficiency of buildings, thereby reducing energy consumption. Compliance with these standards would reduce energy consumption associated with project operations. Overall, project construction and operations would not consume energy resources in a manner considered wasteful, inefficient, or unnecessary. Project impacts related to energy consumption would be less than significant.

b) Consistency with Energy Plans.

The City does not have adopted plans for renewable energy or energy efficiency. However, the City has adopted the 2019 versions of both the California Energy Code and CALGreen, which contain provisions that promote energy efficiency. The project would be required to comply with the applicable requirements of these two codes, which are designed to improve energy efficiency of structure, thereby forwarding State energy conservation goals. Project impacts related to energy plans would be less than significant.

3.7 GEOLOGY AND SOILS

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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.)				✓
ii) Strong seismic ground shaking?			✓	
iii) Seismic-related ground failure, including liquefaction?			✓	
iv) Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?		✓		
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 off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			✓	
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?				✓
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		✓		

NARRATIVE DISCUSSION

Environmental Setting

Topography and Soils

The project site lies in the San Joaquin Valley in central California. The San Joaquin Valley is the southern portion of the Great Valley Geomorphic Province, which is a topographically flat, northwest-trending, structural trough about 50 miles wide and 450 miles long. The San Joaquin Valley is filled with thick sedimentary rock sequences that were deposited as much as 130 million years ago. Large alluvial fans have developed on each side of the Valley. The Geologic Map of the San Francisco – San Jose Quadrangle (Wagner et al. 1991) designates the underlying geology of the project site as the Modesto Formation, consisting of Quaternary (geologically recent) sediments.

According to the U.S. Department of Agriculture's Soil Survey of Merced Area (SCS 1962, NRCS 2020), the soil on the project site is Delhi sand. This is a deep, excessively drained soil. Permeability is very rapid in this soil, which has very low water-holding capacity and produces little to no runoff. The wind erosion hazard is severe, and water erosion is evident where irrigation water has been applied too rapidly. The shrink-swell potential of this soil is low. The risk of corrosion is high for uncoated steel and low for concrete.

Seismic and Geologic Hazards

The project site is not within an Alquist-Priolo Earthquake Zones (California Geological Survey 2015). There is no record of seismic activity in the Livingston area, and no faults have been mapped (City of Livingston 1999a). However, the Livingston General Plan EIR identifies ground shaking as a potential hazard, noting the City is located between two major fault systems – the San Andreas Fault System 59 miles to the west, and the Mother Lode Fault System 42 miles to the east (City of Livingston 1999b). Additionally, the California Geological Survey notes the Ortigalita Fault, an active Holocene fault, is located 29 miles to the west.

When coarse sediments are saturated and compact during an earthquake, soils may lose strength and become fluid, a process called liquefaction. Water from voids may be forced to the ground surface, where it emerges in the form of mud spouts or sand boils. The Livingston General Plan does not identify significant liquefaction hazards in the project vicinity. As discussed in Section 3.10, Hydrology and Water Quality, groundwater levels in the Livingston area are in the range of 60-80 feet below the ground surface.

Paleontological Resources

As noted, geological materials underlying the project site include the recent (Quaternary) sedimentary deposits of the Modesto Formation. Numerous vertebrate fossil sites have been associated with the Modesto Formation in the Central Valley, including land mammals, birds, reptiles, and amphibians (California High Speed Rail Authority 2012). The project site does not contain any known paleontological resources or unique geological features.

Environmental Impacts and Mitigation Measures

a-i) Fault Rupture Hazards.

As noted above, no active or potentially active faults have been mapped in the Livingston area. The California Geological Survey does not place the project site or the City in an Alquist-Priolo Earthquake Fault Zone (California Geological Survey 2015). The closest designated active fault is the Ortigalita fault, which is a Holocene fault approximately 29 miles west of the project site. The project would have no impact related to a fault rupture hazard.

a-ii, iii) Seismic Hazards.

As noted above, no seismic activity has been recorded in Livingston. However, the City and project site are subject to ground shaking from two fault systems. Ground shaking is a hazard to buildings and infrastructure. All new buildings in Livingston are required to be built in accordance with the most recent version of the California Building Code adopted by the City. The California Building Code includes provisions related to seismic safety, compliance with which requires buildings, based on occupancy type, to be constructed to withstand anticipated ground shaking. As a result of these requirements, project impacts related to seismic hazards are considered less than significant.

a-iv) Landslides.

The topography of the project site and surrounding area is flat; therefore, landslides would not occur. The project would have no impact related to landslides.

b) Soil Erosion.

Because of its sandy characteristics, Delhi soil on the project site is considered susceptible to both wind and water erosion. Compliance with SJVAPCD Regulation VIII, which is discussed in Section 3.3, Air Quality, would reduce potential wind erosion impacts.

Title 4, Chapter 6 of the Livingston Municipal Code sets forth provisions for grading of construction sites such that erosion and sedimentation are controlled. These provisions regulate and control the design, construction, quality of materials, use, location, and maintenance of grading, excavating and fill, land disturbances, land fill, and soil storage in connection with the clearing and grading of land for construction within the City. No grading or excavation is allowed without a grading permit issued by the City. An application for a grading permit must include, among other requirements, an interim and final erosion and sedimentation control plan and a geotechnical/soils investigation report if the grading operation exceeds 1,000 cubic yards. Compliance with the provisions of Livingston Municipal Code Title 4, Chapter 6 would minimize potential water erosion impacts.

In addition, for all projects that disturb one acre of land or more, a Construction General Permit is required from the SWRCB. The permit requirements include preparation of a Storm Water Pollution Prevention Plan (SWPPP) by a Qualified SWPPP Developer to address potential water quality issues. A SWPPP specifies the Best Management Practices

(BMPs) needed to avoid or minimize adverse water quality impacts. Construction BMPs fall within the general categories of Temporary Soil Stabilization, Temporary Sediment Control, Wind Erosion Control, Tracking Control, Non-Storm Water Management, and Waste Management and Materials Pollution Control. BMPs applicable to the project are incorporated in the SWPPP as required. BMPs are incorporated into project improvement plans and specifications, subject to the approval of the City Engineer. BMP function and effectiveness are monitored and reported, and remediation is required to address pollution occurrence.

The project would be required to comply with the provisions of the Construction General Permit from the SWRCB, including preparation of a SWPPP, which is required by the mitigation measure below. Compliance with the mitigation measure, along with the other regulations described above, would minimize the amount of sediment that leaves the construction site and potential construction water quality effects, thereby reducing soil erosion impacts to a level that would be less than significant.

Mitigation Measures

GEO-1: Prior to commencement of construction activity, the developer shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for the project and file a Notice of Intent with the State Water Resources Control Board (SWRCB) in compliance with the Construction General Permit and City of Livingston storm water requirements. The SWPPP shall be available on the construction site at all times. The developer shall incorporate an Erosion Control Plan consistent with all applicable provisions of the SWPPP within the site improvement and building plans. The developer also shall submit the SWRCB Waste Discharger's Identification Number to the City prior to approval of development or grading plans.

c) Geologic Instability.

The City General Plan states that the City's low elevation and mild topography negate other seismic hazards, such as settlement and liquefaction (City of Livingston 1999a). The depth to groundwater in the Livingston area ranges from 60 to 80 feet below ground surface (see Section 3.10, Hydrology and Water Quality). The soils underlying the sites where the facilities would be constructed have not been identified as inherently unstable or prone to failure. The project is not expected to change existing conditions related to geologic stability. Required engineering design of proposed structures and site improvements would avoid potential adverse effects, making potential project impacts less than significant.

d) Expansive Soils.

Expansive soils are associated with soils with substantial clay content. Soils on the project site are sandy and have little to no clay content. Such soils are unlikely to be expansive. The project would have no impact related to expansive soils.

e) Adequacy of Soils for Sewage Disposal.

The project would be connected to the City sewer system and would not use, and does not propose to install, any septic systems. The project would have no impact related to soil adequacy for sewage disposal.

f) Paleontological Resources and Unique Geological Features.

The project site is flat and contains no geological features that may be considered unique. The project site is underlain by the Modesto Formation, which has been a source of paleontological finds. Given past agricultural activities on the project site, it is unlikely that any intact paleontological resources would be encountered. However, it is conceivable that currently unknown resources may be uncovered during project construction activities. Procedures to address paleontological discoveries if they should occur are set forth in the mitigation measure below. Implementation of this mitigation would reduce potential impacts to a level that would be less than significant.

Mitigation Measures:

GEO-2: If any subsurface paleontological resources are encountered during construction of the project, all construction activities in the vicinity of the encounter shall be halted until a qualified paleontologist can examine these materials, make a determination of their significance and, if significant, recommend further mitigation measures that would reduce potential effects to a level that is less than significant. Recommended measures may include, but are not limited to, 1) preservation in place, or 2) excavation, recovery, and curation by qualified professionals. The City of Livingston Community Development Department shall be notified, and the project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation measures and documenting mitigation efforts in a written report to the Community Development Department, consistent with the requirements of the CEQA Guidelines.

3.8 GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

NARRATIVE DISCUSSION

Environmental Setting

GHG Background

Greenhouse gases (GHGs) are gases that absorb and emit radiation within the thermal infrared range, trapping heat in the earth's atmosphere. GHGs are both naturally occurring and are emitted by human activity. GHGs include carbon dioxide, the most abundant GHG, as well as methane, nitrous oxide, and other gases. GHG emissions in California in 2017, the most recent year for which data are available, were estimated at approximately 424 million metric tons carbon dioxide equivalent (CO_2e) – a decrease of approximately 14% from the peak level in 2004. Transportation was the largest contributor to GHG emissions in California, accounting for approximately 40% of total emissions. Other significant sources include industrial activities, with approximately 21% of total emissions, and electric power generation, both in-state and imported, with 14.7% of total emissions (ARB 2019).

Increased atmospheric concentrations of GHGs are considered a primary contributor to global climate change, which is a subject of concern for the State of California. Potential impacts of global climate change in California include reduced Sierra Nevada snowpack, increased wildfire hazards, greater number of hot days with associated decreases in air quality, and potential decreases in agricultural production (Climate Action Team 2010).

Unlike the criteria air pollutants described in Section 3.3, Air Quality, GHGs have no "attainment" standards established by the federal or State government. In fact, GHGs are not generally thought of as traditional air pollutants because their impacts are global in nature and their health effects are indirect; air pollutants mainly affect the general region of their release to the atmosphere (SJVAPCD 2015). Nevertheless, the U.S. Environmental Protection Agency (EPA) has found that GHG emissions endanger both the public health and public welfare under Section 202(a) of the Clean Air Act due to their impacts associated with climate change (EPA 2009).

GHG Emission Reduction Plans

The State of California has implemented GHG emission reduction strategies through Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, which requires total statewide GHG emissions to reach 1990 levels by 2020, or an approximately 29% reduction from 2004 levels. In compliance with AB 32, the State adopted the Climate Change Scoping Plan in 2008 and updated the plan in 2014. Primary strategies addressed in the original Scoping Plan included new industrial and emission control technologies; alternative energy generation technologies; advanced energy conservation in lighting, heating, cooling and ventilation; fuels with reduced carbon content; hybrid and electric vehicles; and methods for improving vehicle mileage (ARB 2008). The 2014 update highlights California's progress toward meeting the 2020 GHG emission reduction goal of the original Scoping Plan, and it establishes a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050 (ARB 2014). The

2017 state GHG emissions were approximately seven million metric tons CO_2e below the 2020 target established by AB 32 (ARB 2019).

In 2016, Senate Bill (SB) 32 was enacted. SB 32 extends the GHG reduction objectives of AB 32 by mandating statewide reductions in GHG emissions to levels that are 40% below 1990 levels by the year 2030. The State has adopted an updated Scoping Plan that sets forth strategies for achieving the SB 32 target. The updated Scoping Plan continues many of the programs that were part of the previous Scoping Plans, including the cap-and-trade program, low-carbon fuel standards, renewable energy, and methane reduction strategies. It also addresses, for the first time, GHG emissions from the natural and working lands of California, including the agriculture and forestry sectors (ARB 2017).

The SJVAPCD adopted a Climate Change Action Plan in 2008 and issued guidance for development project compliance with the plan in 2009. The guidance adopted an approach that relies on the use of Best Performance Standards to reduce GHG emissions. Projects implementing Best Performance Standards would be determined to have a less than cumulatively significant impact. For projects not implementing Best Performance Standards, demonstration of a 29% reduction in project-specific (i.e., operational) GHG emissions from business-as-usual conditions is required to determine that a project would have a less than cumulatively significant impact (SJVAPCD 2009).

Cities and counties throughout California have prepared Climate Action Plans that outline how the local government will reduce GHG emissions, which are typically related to the 2020 emission reduction target set in the State's Climate Change Scoping Plan. The City currently has no Climate Action Plan or other GHG reduction plan.

Environmental Impacts and Mitigation Measures

a, b) Project GHG Emissions and Consistency with GHG Reduction Plans.

The CalEEMod model estimated the total GHG construction and operational emissions associated with the project (see Appendix A). Table 3-4 presents the results of the CalEEMod run. GHG construction emissions would be limited due to the length of time of construction activity; these emissions would cease once work is completed.

TABLE 3-4
ESTIMATED GHG EMISSIONS FROM PROJECT

GHG Emission Type	Unmitigated Emissions	Mitigated Emissions
Construction[1]	68.9	68.9
Operational[2]	6,484.0	5,502.0

[1] Total GHG emissions for construction period in tons carbon dioxide equivalent (CO_2e).
[2] Annual emissions in tons CO2e.
Sources: California Emissions Estimator Model v. 2013.2.2.

"Mitigated emissions" are the result of project compliance with applicable laws, rules and regulations, along with inclusion of project features that reduce GHG emissions. These include the following:

- Increase in the diversity of land uses.
- The project site is approximately 0.75 miles from downtown Livingston.
- The project would add sidewalk to the site.
- SB X7-7 in 2009 sets an overall goal of reducing per capita urban water use by 20% by December 31, 2020. The California Green Building Code mandates a 20% reduction in indoor water use.
- AB 341 establishes the goal of diverting 75% of California's waste stream from landfills by 2020.

Mitigated operational GHG emissions would be approximately 15% less than under business-as-usual (unmitigated) conditions. This would be less than the 29% GHG reduction target of the SJVAPCD Climate Change Action Plan.

However, the Climate Change Action Plan is intended to be consistent with the State's Climate Change Scoping Plan reduction targets, Approximately 83% of the GHG emission reduction programs in the Scoping Plan counted toward meeting the 29% objective for 2020 are State-level programs, with the remaining 17% to be achieved by programs at the local government level, including development review. Thus, the local action share of the 29% reduction would be 4.93%. Based on this, it can be assumed that a development project that achieves at least a 4.93% reduction in GHG emissions from business-as-usual levels would be consistent with the objectives of both State and SJVAPCD GHG reduction plans.

The 15% reduction associated with the project would exceed this local share. Therefore, project operational GHG emissions would be consistent with the Scoping Plan, along with the objectives of the Climate Change Action Plan. Project impacts related to GHG emissions and GHG reduction plans are considered less than significant.

3.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
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?				
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
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?				✓
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			✓	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			✓	

NARRATIVE DISCUSSION

Environmental Setting

This section focuses on hazards associated with hazardous materials, proximity to airports, and wildfires. Geologic and soil hazards are addressed in Section 3.7, Geology and Soils; potential flooding hazards are addressed in Section 3.10, Hydrology and Water Quality.

Data on recorded hazardous material sites are kept in the GeoTracker database, maintained by the State Water Resources Control Board (SWRCB), and in the EnviroStor database, maintained by the California Department of Toxic Substances Control (DTSC). Both GeoTracker and EnviroStor provide the names and addresses of documented hazardous material sites, along with their cleanup status. A search of both GeoTracker and EnviroStor indicated no record of active hazardous material sites (i.e., sites not cleaned up) within one-half mile of the Hammatt Avenue/Campbell Boulevard intersection (SWRCB 2020, DTSC 2020).

There are no airports in the Livingston area. The nearest airport to the project site is Turlock Municipal Airport in Turlock in Stanislaus County, approximately eight miles to the northwest. Castle Airport in Atwater is approximately nine miles to the east.

The Livingston General Plan states that wildland fire hazards threaten life and property within the Livingston vicinity. Wildland fires are an annual hazard in Merced County. Wildland fires burn natural vegetation on undeveloped lands and include rangeland, brush, and grass fires. Long, hot, and dry summers with temperatures often exceeding 100°F add

to the County's fire hazard. Human activities are the major causes of wildland fires, while lightning causes the remaining wildland fires. The only wildfire hazard areas identified in the vicinity are scattered areas of Moderate hazard located east of the City (Merced County 2012).

Hazardous Materials

The regulation of hazardous materials at the federal level primarily is under the Resource Conservation and Recovery Act, which creates a framework for the transport, storage, and disposal of hazardous wastes. The U.S. Department of Transportation sets regulations for the transport of hazardous materials, such as gasoline and diesel fuels. Several state agencies regulate the transportation and use of hazardous materials, including the California Environmental Protection Agency (CalEPA) and the Office of Emergency Services. The California Highway Patrol and California Department of Transportation (Caltrans) enforce regulations specifically related to hazardous materials transport. Within CalEPA, the DTSC has primary authority to enforce hazardous materials regulations.

On the local level, the Merced County Health Department, Division of Environmental Health, has been approved by the State as a Certified Unified Program Agency (CUPA). A CUPA administers the Hazardous Material Business Plan, California Accidental Release Prevention, Aboveground Petroleum Storage Act, Hazardous Waste Generator, and Hazardous Waste Onsite Treatment programs, and formerly the Underground Storage Tank (UST) program. Three of these programs are applicable to the project:

- A Hazardous Material Business Plan is required for all activities that handle hazardous materials in quantities equal to or greater than 55 gallons of a liquid. The requirements of the plan include an inventory of hazardous materials, an emergency plan addressing the release of hazardous materials, and a training program for employees.

- The Aboveground Storage Tank program requires any facility with an aggregate storage capacity of 1,320 gallons of petroleum or greater to prepare and implement a Spill Prevention, Control, and Countermeasure Plan in accordance with federal law. The purpose of the Spill Prevention, Control, and Countermeasure Plan is to help facilities prevent oil spills, as well as control a spill should one occur.

- The UST program is intended to protect public health and the environment from exposure to hazardous materials stored in underground storage tanks. Program activities include inspection, permitting, monitoring, repair, installation, and removal of tanks. In 2013, the Merced County Health Department relinquished oversight of USTs to the Central Valley Regional Water Quality Control Board (RWQCB).

a, b) Hazardous Material Transport, Use, and Potential Release.

The project involves a fueling station, which would require the transport and storage of gasoline and diesel fuels. Both fuels are flammable, and gasoline contains toxic substances such as benzene. The fuels would be stored in underground tanks, the installation of which would be subject to the UST program. The project also would be required to submit a Hazardous Material Business Plan that addresses the on-site use and storage of fuels.

The main risk of hazardous material release would be from the transportation of fuels to the project site by tanker trucks. Fuels could be released by trucks involved in an accident or that overturn. As noted above, the transport of hazardous materials is subject to state and federal regulations designed to minimize the risk of release of hazardous materials into the environment. While the City does not have regulations to minimize the risk of release of hazardous materials, the City and Merced County have emergency response teams that would handle any incident involving hazardous materials. The project is accessible from SR 99 freeway and urban streets; the project would not result in a significant increase in hazards related to hazardous material transportation.

A potential release could also occur with spills at the aboveground fuel storage tanks on the project site. The project would be required to prepare and implement a Spill Prevention, Control, and Countermeasure Plan, which would reduce the likelihood of spills and control spills should they occur.

Other commercial development on the project site would store, sell, and use small amounts of hazardous materials. These materials are not expected to be in quantities large enough to pose a threat to human health and the environment if released and would be stored and contained in accordance with applicable federal and state regulations. Project impacts related to hazardous materials handling are considered less than significant.

c) Hazardous Materials Releases near Schools.

There are no schools within one-quarter mile of the project site. The nearest school is Campus Park Elementary, approximately one-half mile to the southwest. As noted above, hazardous materials to be stored, sold, or used on the project site would be subject to applicable federal and state transport and storage regulations. The project would have no impact on hazardous material releases near schools.

d) Hazardous Materials Sites.

As noted, a search of the GeoTracker and EnviroStor databases did not identify any active hazardous material sites in the vicinity of the project site. A list of solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside the waste management unit did not show any locations at the project site or vicinity (CalEPA 2016a). Likewise, a list by SWRCB containing sites under Cease and Desist Orders and Cleanup and Abatement Orders showed no locations (CalEPA 2016b). The project would have no impact related to hazardous material sites.

e) Public Airport Operations.

As previously discussed, there are no public airports in Livingston or in the vicinity. The project would have no impact related to potential hazards from airport operations.

f) Emergency Response and Evacuations.

Project construction work would mostly occur on the project site, with work on adjacent roads limited to connection to utility lines. Such work is not expected to require closure of the roads, so neither project construction nor operation is expected to obstruct emergency vehicle operations or evacuations that may occur in the area. Project impacts on emergency response or emergency evacuation plans would be less than significant.

g) Wildland Fire Hazards.

The project site is not in a region susceptible to wildfires. Land in the vicinity of the project site is either agricultural or developed, and neither such land has a high wildfire potential. The project would reduce the existing fire hazard on the parcel by replacing the existing grasses and weeds with development and pavement. Project impacts related to wildfires would be less than significant. See Section 3.20, Wildfire, for a more detailed discussion of potential hazards.

3.10 HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		✓		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			✓	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river runoff or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial erosion or siltation on- or off-site?			✓	
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			✓	
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage			✓	

systems or provide substantial additional sources of polluted runoff?				
iv) Impede or redirect flood flows?				✓
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			✓	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				✓

NARRATIVE DISCUSSION

Environmental Setting

Surface Waters

There are no streams or other surface waters on or adjacent to the project site. The nearest surface waters of any kind are the Curtner Lateral and Wakefield Lateral, which are irrigation canals that are more than one-half mile north and south of the project site, respectively.

Surface water quality in the Livingston area is maintained through the City's Storm Water Management Program (SWMP), developed in compliance with the federal National Pollutant Discharge Elimination System (NPDES) program and with the SWRCB's Municipal Separate Storm Sewer Systems (MS4) General Permit. The program includes control measures and defines BMPs designed to protect surface water quality associated with land development during both construction and post-construction periods (City of Livingston 2007).

Post-construction elements of the SWMP are governed by City ordinances that require compliance with the City's adopted SWMP, as permitted by the Central Valley RWQCB Order No. 2003-0005-DWQ. The SWMP identifies a range of post-construction BMPs that must be incorporated into development plans. BMPs may include, but are not limited to, vegetated buffer strips and swales, detention basins, vaults and wetlands, and various filtration and infiltration and structures devices, among others. Under new NPDES requirements applicable to the City, storm water discharge volumes associated with new development cannot exceed existing discharges. Volume control can be achieved through a combination of low-impact development and specific measures.

Groundwater

The project site is within the Merced Groundwater Subbasin, which underlies 767 square miles of central and eastern Merced County. The Merced Subbasin consists of five aquifer systems and has an estimated storage capacity of 45.3 million acre-feet. The storage capacity declined approximately 1.92 million acre-feet from 2006 to 2015. From the 1996 to the 2015 water years, average inflow per water year to the Subbasin has been 643,000 acre-feet, and average outflow has been 752,000 acre-feet (Merced SGMA 2019).

The City relies on groundwater for its water supply, which is provided by eight wells (see Section 3.19, Utilities and Service Systems). In the Livingston area, the depth to the groundwater table ranges from 60 to 80 feet below ground surface (DWR 2004). Groundwater quality in the Livingston area is generally good; however, the City has been given notices regarding water samples that contain unacceptable levels of coliform bacteria, arsenic, and 1,2,3-trichloropropane (City of Livingston 2018a). The City has recently implemented projects designed to correct identified water quality deficiencies (City of Livingston 2018b).

In 2014, the State enacted the Sustainable Groundwater Management Act. This act requires the formation of local groundwater sustainability agencies that must assess conditions in their local water basins and adopt locally based Groundwater Sustainability Plans for sustainable use of groundwater and avoidance of overdraft. Plans for "critically overdrafted" basins must be completed and adopted by January 31, 2020, while plans for high- and medium-priority basins have an adoption deadline of January 31, 2022. The Merced Irrigation-Urban Groundwater Sustainability Agency, of which the City is a member, was formed in 2017. A Groundwater Sustainability Plan for the Merced Subbasin, classified as critically overdrafted, was adopted on January 28, 2020 (Merced SGMA 2019).

Flooding Hazard

A Flood Insurance Rate Map prepared by the Federal Emergency Management Agency (FEMA) indicates that the project site is designated Zone X. Zone X is considered an area of minimal flood hazard. It is outside a delineated 100-year floodplain – the floodplain commonly used to assess potential flooding impacts and considered a Special Flood Hazard Area (FEMA 2008). The project site is within the potential dam failure inundation area for the New Exchequer Dam, which forms the Lake McClure reservoir (Merced County 2013).

In 2007, the State of California approved SB 5 and a series of related Senate and Assembly bills intended to set new flood protection standards for urban areas in the Central Valley. These bills, referred to collectively in this document as "SB 5," establish the State standard for flood protection as the 200-year frequency flood. Under SB 5, urban and urbanizing areas must be provided with 200-year flood protection no later than 2025. Preliminary maps drafted by the California Department of Water Resources indicate the project site is outside the 200-year floodplain.

Environmental Impacts and Mitigation Measures

a) Surface Waters and Water Quality.

The project would not directly affect surface waters, as none are in the project vicinity. As noted in Section 3.7, Geology and Soils, construction activities would disturb soils, which could be transported off site by runoff and could eventually enter surface waters. Project development and operation would lead to contamination of storm runoff with fuels, oils, metals, and other substances associated with motor vehicles and trucks. These discharges could eventually enter surface waters. This is considered a potentially significant impact.

As noted, the City of Livingston has adopted a SWMP, which is intended to minimize the potential storm water quality impacts of development. Program elements most applicable to land development include construction storm water discharge requirements, industrial discharge requirements and the incorporation of post-construction BMPs. Storm water from areas of new development must be treated using the post-construction BMPs specified in the SWPPP. These measures will be specified during the design phase of the project. Developers are required to enter into an agreement for maintenance of the post-construction BMPs.

Compliance with the provisions of the City's SWMP, which are specified in the mitigation measures below, would reduce impacts to a level that would be less than significant. In addition, implementation of Mitigation Measure GEO-1, described in Section 3.7, Geology and Soils, would minimize water quality impacts from construction activities, along with compliance with SJVAPCD Regulation VIII.

Mitigation Measures

HYDRO-1: The developer shall submit a Storm Water Quality Plan for the project that shall include post-construction Best Management Practices (BMPs) as required by the City's Storm Water Management Program. The Storm Water Quality Plan shall be reviewed and approved by the City of Livingston Public Works Department prior to approval of project improvement plans.

HYDRO-2: If required, the developer shall execute a Maintenance Agreement with the City for stormwater BMPs prior to receiving a Certificate of Occupancy. The developer shall remain the responsible party and provide funding for the operation, maintenance and replacement costs of the proposed treatment devices built for the project.

HYDRO-3: The developer shall comply with applicable requirements of, and pay all associated fees as required by, the City's Storm Water Pollution Prevention Program as set forth in its NPDES Storm Water Permit.

b) Groundwater Supplies and Recharge.

The City relies on groundwater for its primary source of water. The project would not draw directly from the underlying groundwater but would be connected to the City's water system. Project demand would indirectly affect groundwater supplies, but adequate water supply exists to accommodate this demand (see Section 3.19, Utilities and Service Systems).

The project would replace an existing vacant parcel of grasses and weeds with urban development, including pavement. This would substantially reduce the amount of precipitation that would percolate into the ground at this site, thereby reducing the sites contribution to groundwater recharge. Given the relatively small acreage of the project site and the extent of other lands available for recharge in and surrounding the City, the project is not expected to interfere substantially with groundwater recharge such that there would

be a net deficit in aquifer volume or a lowering of the local groundwater table level. The Merced Integrated Regional Water Management Plan indicates an abundance of available land suitable for groundwater recharge in the Livingston vicinity (RMC Water and Environment 2013). Project impacts on groundwater are considered less than significant.

c-i, ii) Drainage Patterns.

The project would alter existing storm drainage patterns, due to site grading and the installation of pavement. However, as described in c-iii) below, runoff from the project site would be collected and discharged to an on-site drainage system or to the City's drainage system. Therefore, the altered drainage patterns would not lead to increased erosion or siltation, nor would it generate on-site or off-site flooding. Project impacts related to drainage patterns would be less than significant.

c-iii) Runoff.

Proposed improvements on the project site would result in the generation of additional runoff due to the introduction of impervious surfaces. An on-site drainage system would collect all runoff generated on the project site and either deliver it to the City's drainage system or to an on-site detention basin. The on-site detention basin would be designed and installed in accordance with City standards and specifications. The City storm drainage system is expected to have capacity to accommodate project runoff it receives. Project impacts related to runoff are considered less than significant.

c-iv) Flood Flows.

As noted, the project site is not within a 100-year floodplain as indicated by the FEMA map for the area, nor is it within a 200-year floodplain. The project would have no impact related to flood flows.

d) Other Flooding Hazards.

As noted, the project site is not within a floodplain. The site is within the potential inundation zone of New Exchequer Dam were it to fail. However, the Merced County General Plan states that the probability of failure of the dam as being low (Merced County 2013). The project site is in a topographically flat region away from the coast, with no large bodies of water in the vicinity. Therefore, the project would not be affected by seiche or tsunamis. Project impacts related to release of pollutants due to project site inundation are considered less than significant.

e) Water Quality and Groundwater Sustainability Plans.

As described above, the project would be required to comply with the provisions of the City's SWMP, which is designed to maintain local water quality. The Groundwater Sustainability Plan for the Merced Subbasin has been adopted. It is expected that the project would comply with any applicable provisions of this plan. The project would have no impact related to water quality or groundwater plans.

3.11 LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?				✓
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?			✓	

NARRATIVE DISCUSSION

Environmental Setting

The project site is a flat, undeveloped area previously used in the past for agricultural activities. The site is currently vacant. As noted in Chapter 2.0, Project Description, the current City General Plan designation for the project site is Highway Commercial, Service Commercial. The current zoning is C-3, Highway Service Commercial. Adjacent lands are similarly designated for commercial and industrial development, except for land adjacent to and west of the project site that has an existing detention basin This land is designated by the City General Plan as Public Facility and is zoned PF, Public/Quasi Public Facilities.

The project vicinity generally consists of a mix of vacant and developed land. The site is bordered on the south by the SR 99 freeway, and on the north by Campbell Boulevard. Adjacent lands are vacant. Northwest of the project site is a single-family residential development. North of the project site the vacant land is currently in limited agricultural use. Northeast of the project site is a light industrial development with a mix of businesses.

Low-income residents, communities of color, tribal nations, and immigrant communities have historically experienced disproportionate environmental burdens and related health problems. The California Office of Environmental Health Hazard Assessment has developed the California Communities Environmental Health Screening Tool (CalEnviroScreen) to identify "environmental justice" or "disadvantaged" communities. CalEnviroScreen measures pollution and population characteristics of each U.S. Census tract in California using 20 indicators such as air and drinking water quality, waste sites, toxic emissions, asthma rates, and poverty. These indicators are used to generate a score that rates the level of cumulative environmental impacts on each tract. A census tract with a higher score is one that experiences higher pollution burdens and vulnerability than one with a lower score.

The project site is within a Census tract that includes the City of Livingston north of SR 99, the community of Snelling, and the adjacent rural areas. This Census tract has a score in the 80-85% percentile, which makes it a "disadvantaged community" as defined by SB

535. The tract, the population of which is 71% Hispanic, had high indicator scores related to air pollution, pesticides, and drinking water (OEHHA 2020).

Environmental Impacts and Mitigation Measures

a) Division of Established Communities.

The project site is a vacant parcel in an area that contains mostly vacant parcels. The project site is adjacent to SR 99 and has been designated along with other properties in the area for highway commercial and industrial use. The project is consistent with these designations and therefore is a part of the future community of Livingston as defined in the Livingston General Plan. There are no residences or residential communities in the immediate vicinity. The project would have no impact related to division of established communities.

b) Conflicts with Plans, Policies and Regulations Mitigating Environmental Effects.

Project development would be consistent with existing zoning and General Plan designations. The City General Plan was prepared to balance City growth and development with environmental protection to the extent practical. The zoning ordinance is required to be consistent with the General Plan.

Potential environmental impacts of the project are described in this IS/MND, along with plans and ordinances applicable to the environmental issue analyzed. In no cases would the project result in an environmental impact that would be potentially significant.

Although not discussed in the City's General Plan or other plans, adopted environmental impacts on disadvantaged communities is an issue of concern to the State of California. As noted, the project site is within a Census tract classified as a disadvantaged community by CalEnviroScreen. There are residential subdivisions within one-half mile of the project site that could potentially be affected by the project.

The project may contribute air pollutant emissions, including diesel particulate matter, that could have a negative impact (see Section 3.3, Air Quality). However, as discussed in Section 3.3, project operational emissions would not exceed the SJVAPCD significance thresholds for criteria pollutants except for NO_x, which would be reduced below its significance threshold with the required application of SJVAPCD Rule 9510. The SJVAPCD significance thresholds were designed to ensure that SJVAPCD would meet its adopted air quality plans, which were designed in part to meet federal air quality standards set for human health. SJVAPCD Rules 4621 and 4622 would limit emissions from fuel dispensing stations in order to protect human health. The nearest sensitive receptors to air toxic emissions are approximately 1,200 feet away; diesel particulate matter emitted by the project would likely dissipate before reaching these receptors.

Also, as discussed in Section 3.10, Hydrology and Water Quality, the project would have no impact on groundwater, which is the main source for drinking water of the population in the Census tract that is not within the Livingston city limits. As the project does not propose agricultural uses, it would not contribute to existing conditions in the tract related to pesticide use.

The project is not expected to conflict with any City plans and ordinances containing provisions designed to avoid or minimize environmental effects. Project impacts would be less than significant.

3.12 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				✓
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?				✓

NARRATIVE DISCUSSION

Environmental Setting

No significant mineral resources have been identified in the City of Livingston, and there are no mineral operations in Livingston (City of Livingston 1999b). There are no active oil or natural gas fields in the project vicinity (DOGGR 2001).

Environmental Impacts and Mitigation Measures

a, b) Availability of Mineral Resources.

There are no identified mineral resources deposits in the Livingston area. The project would have no effect on the availability of, or access to, locally designated or known mineral resources. The project would have no impact on mineral resources.

3.13 NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			✓	
b) Generation of excessive groundborne vibration or groundborne noise levels?			✓	

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?			✓

NARRATIVE DISCUSSION

Environmental Setting

Noise Background

Noise is commonly measured by using the decibel (dB) scale. Within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by the A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives noise.

Community noise is commonly described in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state, A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The L_{eq} shows very good correlation with community response to noise, and it is the basis for other noise descriptors such as L_{dn} and CNEL. L_{dn} (day-night average level) is based upon the average hourly L_{eq} over a 24-hour day, with a +10 dB weighting applied to noise during the hours between 10:00 p.m. and 7:00 a.m. to account for greater sensitivity during that period. The CNEL (community noise equivalent level) is similar to the L_{dn}, with an additional +5 dB weighting applied to noise during the hours between 7:00 p.m. and 10:00 p.m.

The project site and vicinity are currently a mix of agricultural, residential, and commercial uses, along with vacant land. The existing ambient noise environment in the project site is defined primarily by traffic on local surface roadways and on SR 99. The project site falls within the 60 dB L_{dn} noise contour for SR 99 (City of Livingston 1999a). Surface streets in the project site are lightly traveled and do not contribute substantially to the local effects of SR 99 traffic. Campbell Boulevard west and east of Hammatt Avenue currently generates L_{dn} noise levels ranging between 58 and 62 dB at 100 feet from the roadway centerline.

The Noise Element of the Livingston General Plan establishes noise standards applicable to new development projects. Residential dwellings shall not be exposed to noise from transportation sources at levels that exceed 65 dB L_{dn}/CNEL in outdoor activity areas of these facilities. Interior noise levels within these facilities shall not exceed 45 dB L_{dn}/CNEL. Conversely, and although not expressly stated in the general plan, new land uses that generate substantial transportation noise should not cause existing or planned residential areas to exceed outdoor noise standards.

The Noise Element also establishes acceptable noise level limits for stationary noise sources applicable at the property line of noise-sensitive land uses, such as residences. Table 3-5 shows the City noise standards.

TABLE 3-5
CITY OF LIVINGSTON MAXIMUM STATIONARY-SOURCE NOISE EXPOSURE

	Outdoor Activity Areas	
Noise Level Descriptor	**Day (7:00 a.m. to 10:00 p.m.)**	**Night (10:00 p.m. to 7:00 a.m.)**
Hourly L_{eq}, dB	55	50
Maximum level (L_{max}), dB	75	70

Source: City of Livingston 1999a.

Environmental Impacts and Mitigation Measures

a) Exposure to Noise Exceeding Local Standards.

Project construction would involve temporary increases in ambient noise levels, due to the use of construction equipment and construction vehicle traffic to and from the project site. Noise associated with construction equipment use can range up to approximately 90 dB at 50 feet. Construction noise involves a potentially significant impact where it occurs in the vicinity of sensitive receptors.

The project site is approximately 1,200 feet from the nearest sensitive receptor, which is existing residential development to the northeast. The distance between the project site and nearby residences would result in maximum noise level reductions of more than 24 dB, reducing maximum construction noise levels to below 70 dB, the City's maximum nighttime noise level standard. The City of Livingston 1999 General Plan prohibits the operation of construction equipment on private property such that the sound creates a noise disturbance across a residential property line during the hours of 10:00 p.m. to 7:00 a.m., limiting the time any noise generated by construction activities would reach residences. In addition, construction noise would cease once construction work is completed. Construction noise impacts would be less than significant.

The proposed commercial development is not a noise-sensitive land use, and therefore project exposure to noise generated by existing and future traffic on SR 99 or on surrounding local streets would not be of concern. The developed project site would have the characteristics of a stationary noise source and a source of off-site traffic noise that could affect surrounding land uses. The project would be located adjacent to Hammatt Avenue and the SR 99 northbound ramps, which are not noise sensitive, and there are no existing or planned sensitive noise receptors in the immediate project vicinity. As noted, the closest sensitive noise receptor is approximately 1,200 feet northeast of the project site.

The project would generate substantial additional truck and other vehicular traffic along Hammatt Avenue and Campbell Boulevard between the SR 99 ramps and the project access ways. Traffic increases on Campbell Boulevard would be concentrated in the section south of Hammatt Avenue. Potential increases in noise generated by project traffic were modeled using the Federal Highway Administration's Highway Traffic Noise Prediction Model (FHWA-RD-77-108). Under both existing and cumulative conditions, project-related traffic would not result in significant increases in either existing or future traffic noise.

South of Hammatt Avenue, the project-generated traffic would result in significant noise increases under existing plus project (11.9 dB) and future cumulative (10.7 dB) scenarios in the immediate vicinity of Campbell Boulevard, largely as a result of increases in truck traffic. Increased traffic would increase traffic noise levels from existing levels in the range of 61-64 dB L_{dn} to with-project levels just exceeding 70 dB within 100 feet of the roadway. However, lands within 800 feet of Campbell Boulevard are in, or planned for, commercial use that are not noise-sensitive, so noise increases associated with the project would not result in a significant noise effect. In more distant areas developed or planned for development in residential uses, noise levels with the project would not exceed 61.3 dB L_{dn}, which is well below the City's transportation noise standard for residential uses. Project impacts on noise-sensitive land uses would be less than significant.

b) Exposure to Groundborne Noise.

Groundborne vibration is not a common environmental problem. It is typically associated with transportation facilities, although it is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving, and operating heavy earth-moving equipment.

The project site is approximately 100 feet from the nearest SR 99 through lane; however, the project would not be sensitive to potential vibration impact. Truck traffic associated with the project would largely travel to and from SR 99. This traffic would be on roads constructed to the City commercial standards and designed to accommodate truck traffic, thereby minimizing potential vibrations. It is anticipated that the project would not be exposed to groundborne vibrations nor would it generate substantial groundborne vibrations. As noted, there are no sensitive land uses in the immediate vicinity of the project site, so no such uses would be affected by vibrations. Groundborne vibration impacts would be less than significant.

c) Public Airport and Private Airstrip Noise.

As noted in Section 3.9, Hazards and Hazardous Materials, there are no public airports or private airstrips in the project vicinity. The project would not be exposed to or have any impact related to noise from airports and airstrips.

3.14 POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

NARRATIVE DISCUSSION

Environmental Setting

As of January 1, 2020, the population of Livingston was estimated at 15,052, an increase from its 2010 population of 13,508. The number of housing units in Livingston on the same date was 3,690 – an increase from 3,220 in 2010. Of the total housing units in 2020, 3,113 were single-family detached units (typical houses), approximately 84.3% of the total. Approximately 8.5% of the total housing units were multifamily units of five or more per building. The total number of such units was 312, an increase from 263 in 2010 (California Department of Finance 2020).

Environmental Impacts and Mitigation Measures

a) Population Growth Inducement.

The project would involve commercial development on the 18.9-acre site. While the commercial development would provide new employment opportunities in Livingston, these opportunities would be limited in number and can be expected to be met from the existing population in the Livingston area.

The project would primarily serve SR 99 travelers; the project is not expected to result in any substantial attraction to other new development. As a result, the proposed project is not expected to induce population growth, directly or indirectly, in or near Livingston.

The project site would be served by existing or planned City infrastructure in the vicinity. No substantial extension of new infrastructure that could serve or induce other development would occur in conjunction with or as a result of the project. Overall, project impacts on population growth are considered less than significant.

b) Displacement of Housing or People.

The project site is vacant. There are no existing residences on or in the vicinity of the project site. Therefore, the project would not displace housing or people. The project would have no impact on this issue.

3.15 PUBLIC SERVICES

Would the project:

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Fire protection?			✓	
ii) Police protection?			✓	
iii) Schools?			✓	
iv) Parks?			✓	
v) Other public facilities?			✓	

NARRATIVE DISCUSSION

Environmental Setting

Fire Protection

Fire protection, rescue, and emergency medical response service are provided to the citizens of the City of Livingston by the Livingston Fire Department. Livingston Fire Department is managed through a contractual agreement with Merced County. The agreement consists of staffing for one Cal Fire full time position 24 hours a day, 7 days a week, and 15 volunteer members in the City (Merced County LAFCo 2018). The County Fire Department maintains Station 96 on 1430 C Street in downtown Livingston, which has one Type 2 fire engine, and one Type 1 water tender (Merced County Fire Department 2019). In 2016, Livingston maintained a ratio of slightly greater than one volunteer per 1,000 residents (Merced County LAFCo 2018).

Over the last few years, emergency calls have been steadily increasing. In 2016, the Fire Department responded to 1,581 calls for services. In 2015, the Fire Department responded to 1,468 calls for services. In 2014, the Fire Department responded to 1,214 calls for services. Emergency calls in 2016 rose approximately 10 percent and are projected to grow in the upcoming years. Medical emergencies make up approximately 54 percent of the call

volume. To accommodate new growth or annexations, the City has concluded that construction of additional fire stations may be required (Merced County LAFCo 2018).

Police Protection

Police protection services are provided by the Livingston Police Department. It is the largest General Fund department in the City, about 57 percent of the FY 2016/17 General Fund expenditure budget. The Police Department employed 20 full-time sworn and professional staff personnel as of February 2018, with one additional position anticipated to be filled. In 2005, the City adopted a policy to maintain a ratio of 1.5 officers per 1,000 residents (Merced County LAFCo 2018).

In 2012, the City of Livingston entered into an agreement to provide dispatch services to the City of Gustine. The service required City staff to answer 9-1-1 calls and business lines after hours. In addition to providing services to the City of Gustine, over the last decade there have been two developments in the south portion of the City and other recent commercial developments that have impacted the need for services (Merced County LAFCo 2018).

The Police Department operates from its station at 1446 C Street. The City has not updated or expanded the police facility, but there is a plan to add a second story to the facility. The funding source would need to be identified. While the City has identified department needs for the next six years, there is no updated master plan or adopted capital improvement plan (Merced County LAFCo 2018).

Schools

Elementary and middle school services (kindergarten to 8th grade) are provided by the Livingston Union School District (LUSD). As of the 2018-19 school year, total enrollment in the LUSD was 2,464 students (EdData 2020). Livingston Middle School, the only middle school in the LUSD, is located at 101 F Street approximately 1.2 miles northwest of the project site. The school had an enrollment of 830 students as of the 2018-19 school year. The closest LUSD elementary school is Campus Park Elementary School, located at 1845 H Street approximately 0.5 miles northeast from the site. Enrollment at this school during the 2018-19 school year was 454 students (EdData 2020).

High school services are provided by the Merced Union High School District (MUHSD). Livingston High School, part of the MUHSD and the only public high school in the City, is located on 1617 Main Street, south of the project site. During the 2018-19 school year, enrollment at Livingston High School was 1,243 students (EdData 2020).

Other Public Services

The Livingston Recreation Department manages parks and recreation programs in the City. Section 3.16, Recreation, discusses parks and recreational facilities in more detail. Other public facilities include the Livingston branch of the Merced County Library, located on 1212 Main Street.

a) Fire Protection.

As noted, to accommodate new growth or annexations, the City has identified a possible need for the construction of additional fire stations. Station 96 is in a developed area with existing utility infrastructure. Because of the existing development, available area for expansion may be limited and may require removal of structures and/or pavement, which may involve potential environmental impacts. Another option would be the construction of a new fire station at another site. The City is in the process of identifying a location for a new fire station (Merced County LAFCo 2018). Both options would be subject to CEQA review for potential environmental impacts, if required. Neither option would necessarily be triggered by proposed project development, but the project would place additional demands on fire protection service.

Buildings constructed as part of the project would be required to comply with the provisions of the 2019 California Fire Code, recently adopted by the City. The Fire Code contain provisions designed to improve fire safety in structures, including installation of sprinkler systems, alarm systems, and portable fire extinguishers, along with requirements for hydrants and fire flows. The City has adopted additional provisions related to fire safety in its Fire Prevention Code (Livingston Municipal Code Title 7, Chapter 2). Compliance with these requirements would minimize the risk of fires occurring in new development proposed by the project.

The project also would be subject to the City's adopted Building and Electrical Codes with their applicable provisions related to fire safety, including the installation of smoke detectors and sprinkler systems. Entryways would be constructed to City standards, which consider emergency vehicle accessibility.

While new facilities are not required as a result of the project, future development is required by ordinance to pay Public Facility Fees to the City for future construction of Fire Department facilities that may be required elsewhere in the City. For retail development, the City charges $0.28 per square foot in fire protection fees. Compliance with the applicable codes and City standards, along with payment of mitigation fees, would reduce project impacts on fire protection services to a level that would be less than significant.

b) Police Protection.

The project would generate a demand for police protection services. The General Plan EIR did not identify any significant impacts of future development under the General Plan on police protection services (City of Livingston 1999b). As discussed in Chapter 12.0, Land Use and Population, the project is not expected to affect the City's population in a manner unplanned by the City. Because of this, the project is not expected to affect the officer/population ratio such that new officers would need to be hired. As noted, the Livingston Police Department has plans to add a second story to its existing facility, which would accommodate additional personnel as needed. The Police Chief has indicated that the project would not require this or other improvements to provide service (Chris Soria, pers. comm.).

Future development is required by ordinance to pay mitigation fees to the City for future construction of Police Department facilities that may be required. For retail development, the City charges $0.84 per square foot in police protection fees. With payment of mitigation fees, project impacts related to police protection services would be less than significant.

c) Schools.

The project involves commercial development that would generate employment opportunities. Some employees may move to Livingston with their families, thereby placing some increment of demand on LUSD and MUHSD schools. The number of new students that would enroll in Livingston schools as a result of the project is expected to be minor, if any. New project employees would consist of residents of the City and vicinity (see Section 3.14, Population and Housing).

California Education Code Section 17620 authorizes school districts to levy a fee on residential and commercial/industrial development projects for the purpose of funding the construction or modernization of school facilities. The basis of developer fees is the relationship between new development and the impact on school districts to provide adequate school facilities for the student population that new development generates. Both LUSD and MUHSD impose developer fees for commercial development that would apply to the project. According to California Government Code Section 65995(h), the payment of developer fees is deemed full and complete mitigation of the impacts of a development project on schools. Because of this and the minimal number of students the project would generate, project impacts on school services would be less than significant.

d, e) Parks and Other Public Facilities.

As discussed in Section 3.14, Population and Housing, the population increase resulting from the project is not expected to be significant. Therefore, additional demands on parks and other public facilities such as libraries are expected to be incremental, and no new or expanded public facilities would be required. The City charges mitigation fees for municipal facilities. For commercial development, this fee is $0.75 per square foot of building floor area. With payment of mitigation fees, project impacts would be less than significant.

3.16 RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?			✓	

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?			✓	

NARRATIVE DISCUSSION

Environmental Setting

As discussed in Section 3.15, Public Services, the Livingston Recreation Department manages parks and recreation programs in the City. The City has six parks and recreational facilities. Amenities available at these facilities include picnic areas, barbeques, playgrounds, baseball and soccer fields, a volleyball area, and a stage. The nearest City park to the project site is Livingston Memorial Park on Main Street.

Outside the City, McConnell State Recreation Area is on the Merced River approximately 2.5 miles north of the project site. This facility offers picnic and camping areas. Yosemite National Park is approximately 72 miles east-northeast of the project site.

Environmental Impacts and Mitigation Measures

a, b) Recreational Facilities.

As discussed in Section 3.14, Population and Housing, the population increase resulting from the project is not expected to be significant. The proposed commercial development would not generate any population increase or a demand for new or expanded parks or recreational facilities or services. Project impacts on recreational facilities are considered less than significant.

3.17 TRANSPORTATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?		✓		
b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?			✓	
c) Substantially increase hazards to a geometric design feature (e g., sharp curves or dangerous intersections) or incompatible uses (e g, farm equipment)?		✓		
d) Result in inadequate emergency access?			✓	

NARRATIVE DISCUSSION

Environmental Setting

Information for this section primarily comes from a traffic study conducted for the project by KD Anderson and Associates, which shown in Appendix D of this document.

Streets and Intersections

The roadway network serving the project site consists of the State Route (SR) 99 freeway, Hammatt Avenue, which forms an interchange with SR 99 at the project site, and Campbell Boulevard. The project site is adjacent to all three roadways.

- *SR 99* is the primary north-south transportation corridor through Merced County. Near the project site, it has a west-northwest to east-southeast alignment. SR 99 is a controlled access freeway with a six-lane width southeast of Hammatt Avenue and a four-lane width northwest of Hammatt Avenue. Project access to SR 99 is primarily provided via the Hammatt Avenue interchange, which is immediately adjacent to the site. The most recent traffic count data available from Caltrans (2017) indicate that SR 99 carries an average annual daily traffic (AADT) volume of 60,000 to 62,000 vehicles per day and peak hour volume of 5,500 to 5,800 in the vicinity of the project site. Trucks comprise 24% of the daily traffic volume on SR 99.

- *Hammatt Avenue* is designated an arterial street in the Circulation Element of the Livingston General Plan Livingston. Near the project site, Hammatt Avenue is a north-south, two-lane roadway, although the Circulation Element of the Livingston General Plan notes that a five-lane section is planned in the future. Hammatt Avenue begins at an intersection on Peach Avenue and continues north across SR 99 to its northern terminus at Olive Avenue at the northern City limits. The Hammatt Avenue interchange is one of two interchanges providing the Livingston area with access to SR 99. North of F Street in the vicinity of the interchange with SR 99, the adjacent land uses include existing, approved, and proposed nonresidential uses. Traffic count data collected in 2019 indicated a daily traffic volume on Hammatt Avenue south of SR 99 of 9,222 vehicles per day. The daily volume north of SR 99 is estimated to be 10,800 vehicles per day, based on the peak hour traffic counts collected for this analysis.

- *Campbell Boulevard* is also designated an arterial street in the Circulation Element of the Livingston General Plan. Campbell Boulevard lies parallel to and north of SR 99 and extends from the SR 99/Winton Parkway interchange across Hammatt Avenue into Merced County and the SR 99/Sultana Drive – Liberty Avenue interchange. Near the project site, Campbell Boulevard is a two-lane roadway. In the area east of Hammatt Avenue, adjacent land uses are primarily light industrial. The daily traffic volume on Campbell Boulevard east of Hammatt Avenue is estimated to be 1,800 vehicles per day.

Other streets and road potentially affected by the project include:

- *F Street* is an east-west street that traverses Livingston south of SR 99. F Street originates at the Flint Avenue/Robin Avenue intersection and continues easterly across Hammatt Avenue to Dwight Way. This two-lane roadway is designated a Collector in the Circulation Element. The land uses along F Street west of Hammatt Avenue are primarily residential, while agricultural and commercial uses exist in the east. Based on the peak hour volume collected for the study the daily traffic volume west of Hammatt Avenue is estimated to be 3,850 vehicles per day.

- *Industrial Drive* is a local street that provides access to the commercial area east of Hammatt Avenue and north of Campbell Boulevard. This two-lane street intersects Campbell Boulevard about 500 feet east of the Hammatt Avenue intersection and extends northerly for 1,100 feet to Walnut Avenue. The land uses along Industrial Drive are light-industrial/warehousing.

The SR 99/Hammatt Avenue interchange is a diamond configuration with roughly 550 feet between ramp intersections. Under Caltrans convention, SR 99 is a north-south freeway, and the ramps are thus designated "northbound" (NB) and "southbound" (SB) even though the alignment of the freeway through Livingston is east to west. Campbell Boulevard intersects Hammatt Avenue about 430 feet from the SR 99 NB ramps intersection, and the F Street intersection is about 725 feet from the SR 99 SB ramps. The SR 99 off-ramps terminate at all-way stop controlled intersections. The SB off-ramp is 1,330 feet long, and the NB off-ramp is 1,240 feet long. The on-ramp areas are of similar length. Both the NB on-ramp and SB on-ramp are about 1,350 feet long and are followed by a 250-foot-long auxiliary lane. Caltrans publishes daily traffic volume information for freeway ramps, and the most recent data is summarized in Table 1 of the traffic study.

Table 3-6 indicates existing traffic flow conditions at four stop sign-controlled intersections analyzed in the traffic study. Traffic conditions are measured in average time of delay and Level of Service (LOS) at each of the intersections during the morning peak hour and the evening peak hour of traffic. LOS "grades" traffic conditions from A to F, with A representing the best traffic conditions (no delay at the intersection). The City of Livingston considers LOS C as the minimally acceptable LOS for intersections. As indicated in Table 3-6, two of the study intersections operate at an acceptable LOS during both the morning and evening peak hours. Although the Hammatt Avenue/Campbell Boulevard intersection at the eastbound approach operates overall at an acceptable level with minimum delay, the westbound approach operates at an unacceptable LOS during both peak hours. The Hammatt Avenue/SR 99 NB ramps intersection also operates at an unacceptable LOS during both peak hours.

The traffic study also evaluated the LOS at the ramp junctions at the SR 99/Hammatt Avenue interchange. Freeway ramp junction LOS is predicated on the hourly mainline traffic volume as well as the volume of traffic on specific ramps. Table 3-7 identifies current LOS at these freeway ramp junctions. As shown, all operate at LOS D or better during the morning and evening peak hour. Unlike City intersections, Caltrans considers LOS D an acceptable LOS for ramp junctions.

TABLE 3-6
LOS AT STUDY INTERSECTIONS – EXISTING CONDITIONS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Average Delay (sec.)	LOS	Average Delay (sec.)	LOS
Hammatt Ave./Campbell Blvd.					
Eastbound	East/west stop	14.5	B	14.2	B
Westbound		**68.0**	**F**	**44.7**	**E**
Hammatt Ave./SR 99 NB Ramps	All-way stop	**36.5**	**E**	**26.1**	**D**
Hammatt Ave./SR 99 SB Ramps	All-way stop	23.3	C	19.8	C
Hammatt Ave./F Street	All-way stop	14.1	B	14.2	B

Notes: **Bold** values indicate unacceptable City LOS (D, E or F).
Source: KD Anderson and Associates 2020.

TABLE 3-7
LOS AT RAMP JUNCTIONS – EXISTING CONDITIONS

Ramp Junction	Type	AM Peak Hour			PM Peak Hour		
		Ramp Volume	Density	LOS	Ramp Volume	Density	LOS
SB Hammatt Ave off	Diverge	206	27.7	C	402	34.8	D
SB Hammatt Ave on	Merge	296	25.8	C	290	30.4	D
NB Hammatt Ave off	Diverge	307	31.3	D	289	29.2	D
NB Hammatt Ave on	Merge	338	28.4	D	247	26.0	C

Notes: Ramp volume – vehicles per hour. Density – passenger cars per lane per mile.
Source: KD Anderson and Associates 2020.

As noted, two of the four study intersections currently operate with LOS that exceed the City's LOS C minimum. However, peak hour traffic signal warrants are not satisfied during more than one time period, and the length of existing peak period queues does not exceed the available storage length or extend back into adjoining intersections. Adequate LOS are delivered at freeway ramp junctions; therefore, no capacity improvements are needed for these facilities at this time. However, the City is currently working to design and construct intersection improvements to the Hammatt Avenue/Campbell Boulevard intersection, and that work would include a traffic signal.

SB 743

The State of California has recently added Section 15064.3 to the CEQA Guidelines, which incorporates the requirements of SB 743 into CEQA analysis. SB 743, enacted in 2013, seeks to balance traffic impacts and mitigation with statewide GHG emission reduction goals, by eliminating street and intersection capacity as the principal means for evaluating transportation impacts.

Section 15064.3 states that vehicle miles traveled (VMT) is the preferred method for evaluating transportation impacts, rather than the commonly used LOS. While a quantitative analysis of VMT is preferred, a qualitative analysis may be used if existing models or methods are not available to estimate VMT for the project being considered. The Governor's Office of Planning and Research has issued a Technical Advisory on evaluating transportation impacts using VMT. The Technical Advisory states that residential, office, and retail projects tend to have the greatest influence on VMT (OPR 2018).

The following impact analysis conforms to this guidance by analyzing project VMT. Capacity-related concerns are nonetheless addressed, not as potentially significant effects on the environment but rather as to consistency with City LOS standards.

Alternative Transportation Modes

Public Transportation

Public transportation services in Livingston are provided by The Bus, overseen by the Transit Joint Powers Authority for Merced County and managed through MCAG. The Bus operates the Livingston Commuter route (L Line) that connects Livingston with Merced via Winton and Atwater. The L Line operates along Walnut Avenue with a stop at the Franci Street intersection approximately one-half mile north of the project site. The Turlock Commuter route (T Line), between Merced and Turlock in Stanislaus County, provides service in the project vicinity along Hammatt Avenue to the Walnut Avenue/Franci Street stop.

Bicycle and Pedestrian Facilities

The Circulation Element of the City General Plan includes a Bikeways Plan that designates a bikeway along Campbell Boulevard from Hammatt Avenue to Winton Parkway. The City of Livingston also adopted a Bicycle Plan in November 2005, which designates a bikeway along Hammatt Avenue from Walnut Avenue to Peach Avenue. The City of Livingston currently has no designated bicycle facilities near the project site.

There is existing sidewalk along the west side of Hammatt Avenue from Walnut Avenue to F Street. The east side of Hammatt Avenue has partial sidewalk from Walnut Avenue to Campbell Boulevard. There is also existing sidewalk along the north side of Campbell Boulevard from East Avenue to Hammatt Avenue. There are no other sidewalk in the vicinity of the project site.

Environmental Impacts and Mitigation Measures

a) Conflict with Applicable Plans, Ordinances and Policies.

Motor Vehicle Transportation Plans

The traffic study evaluated projected traffic operations at the study intersections with the addition of the project under Existing Plus Project-Phase 1 and Existing Plus Project-Buildout conditions. Operations under both conditions are described below.

Existing Plus Project-Phase 1

Table 3-8 shows estimated traffic operations under Existing Plus Project-Phase 1 conditions, with a more detailed analysis shown in the traffic study in Appendix D. As shown in Table 3-8, the Hammatt Avenue/F Street intersection operates at an acceptable LOS during both the morning and evening peak hours. Although the Hammatt Avenue/Campbell Boulevard intersection at the eastbound approach operates overall at an acceptable LOS, the westbound approach operates at an unacceptable LOS during both peak hours. The Hammatt Avenue/SR 99 NB ramps intersection also operates at an unacceptable LOS during both peak hours. The Hammatt Avenue/SR 99 SB ramps intersection operates at an acceptable LOS during the evening peak hour but at an unacceptable LOS during the morning peak hour.

TABLE 3-8
LOS AT STUDY INTERSECTIONS – EXISTING PLUS PROJECT
PHASE 1 CONDITIONS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Average Delay (sec.)	LOS	Average Delay (sec.)	LOS
Hammatt Ave./Campbell Blvd.					
Eastbound	East/west stop	19.0	C	19.3	C
Westbound		**>300**	**F**	**>300**	**F**
Hammatt Ave./SR 99 NB Ramps	All-way stop	**88.5**	**F**	**60.0**	**F**
Hammatt Ave./SR 99 SB Ramps	All-way stop	**29.7**	**D**	24.8	C
Hammatt Ave./F Street	All-way stop	19.7	C	19.3	C

Notes: **Bold** values indicate unacceptable City LOS (D, E or F).
Source: KD Anderson and Associates 2020.

With Phase 1, the addition of project-generated automobile and truck traffic onto the adjacent street system would result in two intersections operating with delays that are indicative of LOS F, and one intersection operating at LOS D. Peak hour traffic signal warrants will be satisfied both time periods at the Hammatt Avenue/Campbell Boulevard intersection and during one time period at the two SR 99 ramp intersections. This is an important traffic impact but not a significant effect under CEQA as discussed above. Provisions for transportation system improvements presented below would ensure that traffic conditions would operate to City standards at the deficient intersections, reducing impacts to an acceptable level consistent with the Livingston General Plan as shown in the traffic study.

Transportation Improvement Measures:

TRANS-1: The project applicant or successors in interest shall be required to pay fair-share costs of a traffic signal at the Hammatt Avenue/Campbell Boulevard intersection.

TRANS-2: The project applicant or successors in interest shall be required to pay fair-share costs of traffic signals or roundabouts at the Hammatt Avenue intersections with the SR 99 northbound ramps and the SR 99 southbound ramps. The project applicant or successors in interest shall be required to pay fair-share costs of preparing a preliminary Intersection Control Evaluation report to provide a screening assessment of the feasibility of a roundabout or traffic signal at the SR 99 ramps intersections.

Existing Plus Project-Buildout

Table 3-9 shows estimated traffic operations under Existing Plus Project-Buildout conditions, with a more detailed analysis shown in the traffic study in Appendix D. As shown in Table 3-9, the resulting LOS at the intersections are similar to those under Phase 1 conditions. The most notable differences are that the Hammatt Avenue/SR 99 SB ramps intersection operates at an unacceptable LOS during both the morning and the evening peak hours, and that the Hammatt Avenue/Campbell Boulevard intersection at the eastbound approach operates at an unacceptable LOS during the morning peak hour.

TABLE 3-9
LOS AT STUDY INTERSECTIONS – EXISTING PLUS PROJECT BUILDOUT CONDITIONS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Average Delay (sec.)	LOS	Average Delay (sec.)	LOS
Hammatt Ave./Campbell Blvd.					
Eastbound	East/west stop	**25.4**	**D**	22.0	C
Westbound		**>300**	**F**	**>300**	**F**
Hammatt Ave./SR 99 NB Ramps	All-way stop	**125.7**	**F**	**86.4**	**F**
Hammatt Ave./SR 99 SB Ramps	All-way stop	**35.7**	**E**	**28.4**	**D**
Hammatt Ave./F Street	All-way stop	21.7	C	20.3	C

Notes: **Bold** values indicate unacceptable City LOS (D, E or F).
Source: KD Anderson and Associates 2020.

With buildout, the addition of project-generated automobile and truck traffic onto the adjacent street system would result in two intersections operating with delays that are indicative of LOS F, and one intersection operating at LOS E. Peak hour traffic signal warrants will be satisfied both time periods at the Hammatt Avenue/Campbell Boulevard intersection and during one time period at the two SR 99 ramp intersections. This is an important traffic impact, but not a significant effect under CEQA as discussed above. In addition to the transportation improvements that address Phase 1 conditions, the additional requirements presented below would ensure that traffic conditions at these intersections would operate at a level consistent with City standards, thereby reducing impacts to an acceptable level, consistent with the Livingston General Plan.

Transportation Improvement Measures:

TRANS-3: The project applicant or successors in interest shall be required to pay fair-share costs of the addition of an eastbound right-turn lane, approximately 200 feet in length, on Campbell Boulevard with right turn overlap phases on the northbound-to-eastbound and eastbound-to-southbound movements.

Ramp Junctions

Table 3-10 identifies Existing Plus Project-Buildout LOS and peak hour volumes on the ramps at the SR 99/Hammatt Avenue interchange. As shown, with one exception, all ramps would operate at LOS C or D during the morning and evening peak hours, meeting or exceeding the Caltrans minimum LOS standard. The exception is the SB off ramp, which is projected to operate at LOS E in the evening peak hour. While LOS E exceeds the minimum standard, the 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) indicates that SR 99 is expected to be widened to six lanes in the near

future (MCAG 2018). With this improvement, this ramp diverge will satisfy the minimum LOS D goal. Because conditions at this location at buildout are barely LOS E, conditions with Phase 1 would remain at LOS D at this off ramp. All other ramp junctions would at least meet Caltrans minimum LOS standards under Phase 1 conditions. No improvements would be required.

TABLE 3-10
LOS AT RAMP JUNCTIONS – BUILDOUT CONDITIONS

Ramp Junction	Type	AM Peak Hour			PM Peak Hour		
		Ramp Volume	Density	LOS	Ramp Volume	Density	LOS
SB Hammatt Ave off	Diverge	275	28.0	C	463	**35.0**	**D-E**
SB Hammatt Ave on	Merge	380	26.1	C	359	30.6	D
NB Hammatt Ave off	Diverge	394	31.6	D	366	29.5	D
NB Hammatt Ave on	Merge	424	28.6	D	301	26.0	C

Notes: Ramp volume – vehicles per hour. Density – passenger cars per lane per mile.
Bold values indicate unacceptable Caltrans LOS (E or F).
Source: KD Anderson and Associates 2020.

Non-vehicular Transportation Plans

The project would have no impact on the future development of bikeways in the project vicinity, as described in the Circulation Element of the City's General Plan and the City's Bicycle Plan. Phase 1 development may result in pedestrians wishing to walk between the site and the remainder of Livingston. Since no pedestrian facilities currently exist from the project site to the City, the lack of such facilities is a potentially significant impact. Mitigation presented below would provide a safe route along Campbell Boulevard and a safe crossing on Hammatt Avenue. Implementation of this mitigation measure would reduce impacts related to pedestrian movement to a level that would be less than significant.

Mitigation Measures:

TRANS-4: The project applicant or successors in interest shall install frontage improvements along Campbell Boulevard, including sidewalks, during Phase 1 development of the project site (see Mitigation Measure TRANS-1). Standard pedestrian crossing controls and ADA-accessible ramps shall be included in the proposed signalization of the Hammatt Avenue/Campbell Boulevard intersection, and the project shall contribute its fair share to the cost of those features.

b) Conflict with CEQA Guidelines Section 15064.3(b).

As noted, Section 15064.3 states that VMT is the preferred method for evaluating transportation impacts, rather than the commonly used LOS. The VMT metric measures the total miles traveled by vehicles as a result of a given project. VMT accounts for the total environmental impact of transportation associated with a project, including use of non-vehicle travel modes. Section 15064.3(b) sets forth the criteria for analyzing transportation impacts using the preferred VMT metric:

- VMT exceeding an applicable threshold of significance may indicate a significant impact. The City of Livingston currently does not have traffic impact standards based on VMT.

- Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing "high-quality transit corridor" should be presumed to cause a less-than-significant transportation impact. There are no such stops or corridors near the project site

- Projects that decrease VMT in the project area compared to existing conditions should be presumed to cause a less-than-significant transportation impact.

The project is a truck stop, which has retail components in the convenience store and the quick-serve restaurants. However, the primary purpose of the project is to provide service to commercial trucks, including fueling and repair services. Also, all services provided by the project are primarily oriented to vehicles traveling on SR 99. Most vehicle trips associated with the project would be diverted from SR 99. The project would have a more limited orientation to City residents, with local trips mainly generated by truck stop employees or by residents patronizing the quick-serve restaurants.

As noted in Section 3.11, Land Use, the project is consistent with the Livingston General Plan and with existing zoning. The project also would not conflict with the preferred scenario described in the 2018 RTP/SCS prepared by MCAG, which focuses on infill residential development in downtown cores near jobs and services and limits development in new growth areas by adding no new unincorporated communities (MCAG 2018). Given all this, project impacts related to CEQA Guidelines Section 15064.3(b) are considered less than significant.

c) Traffic Hazards.

The project would involve development of private property adjacent to Campbell Boulevard and Hammatt Avenue. Access to the site and frontage improvements will be designed and constructed in accordance with adopted City standards and subject to the review and approval of the City Engineer. As noted, mitigation measures would require the project to contribute fair-share costs to facilities that would increase the safety of traffic movement.

The traffic study evaluated potential traffic queuing under Phase 1 and buildout conditions. Queue lengths that exceed available storage in turn lanes or reach adjoining intersections could create an appreciable safety issue. An analysis of potential queue lengths typically is

based on the "95th Percentile Queue," which is the queue length (in vehicles) that has only a 5-percent probability of being exceeded during the analysis time period. It is a useful parameter for determining the appropriate length of turn pockets. The traffic study concluded that existing 95th percentile queues can be accommodated by the existing street system. However, at project buildout, the queue of southbound traffic extending back from the Hammatt Avenue/SR 99 NB ramps intersection would reach the Campbell Boulevard intersection in both the morning and evening peak hours. This would be a safety issue and therefore a potentially significant impact. The improvements needed to address LOS, as noted earlier in this section, would also deal with this issue. No additional transportation improvement measures would be required.

Turning requirements are important with regards to legal truck circulation. The project would attract full-size trucks already permitted on SR 99 (i.e., STAA) turning into and out of the site via the Hammatt Avenue/Campbell Boulevard intersection and at the SR 99 ramps intersections. Review of the current layout of each intersection indicates that STAA vehicles can travel legally from the SR 99 interchange to the project site. However, this will need to be confirmed as improvement plans are developed, and the City may need to make a formal application for STAA designation on the affected portions of Hammatt Avenue and Campbell Boulevard. Mitigation described below would ensure that STAA trucks can be accommodated by the project, thereby reducing potential safety impacts to a level that would be less than significant.

Mitigation Measures:

TRANS-5: Improvements to the Hammatt Avenue/Campbell Boulevard intersection shall be designed to accommodate STAA trucks, and the project shall contribute its fair share to the cost of those features. Project access shall be designed to accommodate STAA trucks. Phase 1 shall contribute its fair share to the cost of a Caltrans STAA route designation application to be completed by the City and shall contribute its fair share to the cost of improvements needed to accommodate STAA trucks.

d) Emergency Access.

Access to the project site would be provided off Campbell Boulevard by several driveways, thereby providing adequate access for emergency vehicles. Project impacts on emergency vehicle access would be less than significant.

3.18 TRIBAL CULTURAL RESOURCES

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:

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	✓		
	✓		

a) 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

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

NARRATIVE DISCUSSION

Environmental Setting

As noted in Section 3.5, Cultural Resources, the City of Livingston lies within the historic territory of the Yokuts, which ranged from the Tehachapi Mountains to modern-day Stockton in the San Joaquin Valley. Settlements were oriented towards water resources, with major villages situated near waterways that provided reliable water supplies and substantial food sources. A Yokut village was reported to have 200 to 300 people. Economic subsistence was based on acorns, along with gathering and processing of wild seeds and other vegetable foods. Rivers and streams provided fish, shellfish, and turtles, and game, wildfowl and small mammals were trapped to augment the diet. Trade with other tribes was well developed, as the Yokuts obtained resources not otherwise available in their territory, such as obsidian and shell beads. Diseases introduced by Europeans took their toll on the Yokuts and other tribes, as up to three-quarters of the population in the San Joaquin Valley died from malaria alone.

In 2014, the California Legislature enacted Assembly Bill (AB) 52, which focuses on consultation with Native American tribes on land use issues potentially affecting the tribes. The intent of this consultation is to avoid or mitigate potential impacts on "tribal cultural resources," which are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe." Under AB 52, when a tribe requests consultation with a CEQA lead agency on projects within its traditionally and culturally affiliated geographical area, the lead agency must provide the tribe with notice of a proposed project within 14 days of a project application being deemed complete

or when the lead agency decides to undertake the project, if it is the agency's own project. The tribe has up to 30 days to respond to the notice and request consultation; if consultation is requested, then the local agency has up to 30 days to initiate consultation.

The Native American Heritage Commission conducted a search of its Sacred Lands file. Appendix C contains the search results, which indicated that no Sacred Lands have been recorded on the project site. The City of Livingston has not been identified as an area of interest by any tribe for consultation, including the Yokuts (Hatch, electronic mail, November 13, 2019). Since no tribe has requested to be consulted by the City on projects, AB 52 consultation will not occur.

Environmental Impacts and Mitigation Measures

a, b) Tribal Cultural Resources.

As noted in Section 3.5, Cultural Resources, no archaeological resources have been recorded on or near the project site. Project construction could potentially uncover previously unknown archaeological resources, including those of Native American origin. Mitigation Measure CULT-1 would require construction work to stop at an uncovered resource site under an archaeologist can evaluate the resource and give recommendations for its disposition. Mitigation Measure CULT-2 sets procedures for the treatment of any Native American remains that may be uncovered during project construction. Implementation of these mitigation measures would reduce potential impacts on tribal cultural resources to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures: Implementation of Mitigation Measures CULT-1 and CULT-2

Significance After Mitigation: Less than significant

3.19 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 could cause significant environmental effects?			✓	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?			✓	
c) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate			✓	

capacity to serve the project's projected demand in addition to the provider's existing commitments?				
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?			✓	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				✓

NARRATIVE DISCUSSION

Environmental Setting

Wastewater

The City of Livingston collects and treats wastewater generated by City residents and businesses. The City's wastewater collection system consists of 29 miles of sewer lines ranging in diameter from 6 to 27 inches (Merced County LAFCo 2018). There is a 12-inch diameter sewer line and a 10-inch diameter sewer line that extend beneath Campbell Boulevard along the project site frontage.

The collected wastewater is conveyed to the Domestic Wastewater Treatment Plant, located on Vinewood Avenue and Washington Boulevard northwest of Livingston. The average wastewater flow into the treatment plant is 1.06 million gallons per day (mgd). The Domestic Wastewater Treatment Plant currently has adequate capacity to treat an average wastewater flow of 2.0 mgd (City of Livingston 2016).

Potable Water

The City provides potable water to City residents and businesses. As noted in Section 3.10, Hydrology and Water Quality, the City obtains its water from local aquifers through eight wells. Until recently, the City wells had individual production capacities ranging from 970 to 1,140 gallons per minute. As of 2008, City wells had a supply capacity of approximately 10.8 mgd. In 2005, the City produced approximately 5.8 mgd of water. The City recently added a new groundwater well to its system, Well No. 17; the well's production capacity adds approximately 2.9 mgd to the City's water production capacity.

The City's water system includes a storage tank with a capacity of one million gallons and more than 36 miles of pressurized water lines ranging in diameter from 2 to 16 inches. A water line 12 inches in diameter is located within adjacent Hammatt Avenue (Martinez, pers. comm.). Another water line extends along Campbell Boulevard from Hammatt Avenue to the intersection with Industrial Drive.

Storm Drainage

Storm drainage generated in the developed areas of the City is collected by a municipal system composed of underground storm drains, detention and percolation basins, and Merced Irrigation District canals and laterals via pump stations. A storm drainage line of 18 inches diameter extends beneath Campbell Boulevard and terminates into an existing detention facility adjacent to Hammatt Avenue (City of Livingston 2007). As noted in Section 3.10, Hydrology and Water Quality, the City has an adopted SWMP, developed in compliance with the federal NPDES program and with the SWRCB's MS4 General Permit. The SWMP requires preparation of a construction SWPPP and incorporation of post-construction BMPs into the project to protect water quality.

Solid Waste

Solid waste is collected in Livingston by Gilton Solid Waste Management, Inc., under contract with the City. On average, approximately 1,097 tons of solid waste is collected in Livingston per month. The collected solid waste is transported to one of two landfills in Merced County. The Billy Wright Landfill, approximately one mile west of Interstate 5 near Los Banos, has a maximum permitted disposal capacity of 14,800,000 cubic yards. As of September 30, 2010, this landfill had a remaining capacity of 11,370,000 cubic yards (CalRecycle 2018a). The Highway 59 Landfill, along SR 59 approximately six miles north of Merced, has a maximum permitted disposal capacity of 30,012,352 cubic yards. As of September 1, 2005 – the latest date for which information was available – this landfill had a remaining capacity of 28,025,334 cubic yards (CalRecycle 2018b).

Environmental Impacts and Mitigation Measures

a) Relocation or Construction of Utility Facilities.

The project would connect to existing sewer lines in Campbell Boulevard adjacent to the site. No new or extended sewer mains would need to be installed. As noted above, an existing water line is also available for connection along Campbell Boulevard. The project can connect to the City's water system without extension of water lines.

Storm drainage would be collected by an on-site drainage system that would be sent to a new detention basin to be constructed at the southeastern end of the project site. The detention basin would be designed and constructed in accordance with City specifications. Overall, utility facility impacts would be less than significant.

b) Water Supplies.

The project would place additional demand on the City's water distribution system. Based on average usage of 2,675 gallons per day per acre for non-residential areas, the water demand of the project at full buildout would be approximately 6,206 gallons per day, or 2.27 mgd (City of Livingston 1992b). This figure is likely an overestimate, as the City's Water Distribution System Master Plan combined commercial and industrial uses for its non-residential average usage figure. As indicated above, the City's water system had approximately 10.8 mgd of available water supply in 2008, and the available potable water capacity was recently increased by approximately 2.9 mgd with the addition of Well 17.

The City would have adequate capacity to accommodate the water demands of the project without requiring additional water supplies. Project impacts on water supplies would be less than significant.

c) Wastewater Treatment Capacity.

The project would place additional demand on the City's wastewater collection and treatment system. Based on an average flow of 4,000 gallons per day per acre for industrial users, the amount of wastewater that would be generated by the project would be approximately 9,280 gallons per day (City of Livingston 1992a). Again, this figure is likely an overestimate; the City's Sewer Collection System Master Plan did not estimate average flow for commercial uses, which are generally lower than for industrial uses. As indicated above, the Domestic Wastewater Treatment Plant currently has available capacity of 2.0 mgd on average. The City's wastewater treatment system would have adequate capacity to accommodate wastewater generated by the project without requiring additional capacity. Project impacts on wastewater treatment capacity would be less than significant.

d) Solid Waste Services.

As noted above, the City generates 1,097 tons of solid waste per month. Project development would add incrementally to this total. As indicated above, the two landfills that accept the City's solid waste have available capacity to accommodate the additional waste. AB 341 requires businesses that produce four or more cubic yards of waste per week to recycle, reuse and/or divert some of their waste from waste. Also, AB 1826 requires businesses that generate at least eight cubic yards of waste per week to arrange for organic waste service. It is expected that the project would comply with these requirements should the waste it generates meets these criteria, thereby reducing the need for additional landfill capacity. Impacts on solid waste services are considered less than significant.

e) Compliance with Solid Waste Regulations.

As noted, the project is expected to comply with AB 341 and AB 1826 requirements should the waste it generates meet the criteria specified in these bills. The project is expected to comply with all applicable federal, state, and local solid waste regulations. The project would have no impact related to compliance with solid waste regulations.

3.20 WILDFIRE

If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			✓	
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?				✓

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?				✓
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?				✓

NARRATIVE DISCUSSION

Environmental Setting

As noted in Section 3.9, Hazards and Hazardous Materials, wildland fires are an annual hazard in Merced County, including the Livingston vicinity. Wildland fires burn natural vegetation on undeveloped lands and include rangeland, brush, and grass fires.

The California Department of Forestry and Fire Protection's Fire and Resource Assessment Program identifies fire threat based on a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined in determining the following Fire Hazard Severity Zones: Moderate, High, Very High, Extreme. These zones apply to designated State Responsibility Areas – areas in which the State has primary firefighting responsibility. The project site is not within a State Responsibility Area and therefore has not been placed in a Fire Hazard Severity Zone for such areas (Cal Fire 2007a). Both the project site and surrounding area are in a Local Responsibility Area, and neither are in any designated fire hazard severity zones (Cal Fire 2007b).

Environmental Impacts and Mitigation Measures

a) Emergency Response Plans and Emergency Evacuation Plans.

As discussed in Section 3.9, Hazards and Hazardous Materials, project construction work would mostly occur on the project site, with work on adjacent roads limited to connection to utility lines. Such work is not expected to require closure of the roads, so neither project construction nor operation is expected to obstruct emergency vehicle operations or evacuations that may occur in the area. Project impacts on emergency response or emergency evacuation plans would be less than significant.

b) Exposure of Project Occupants to Wildfire Hazards.

The project site is not part of a State Responsibility Area, and Cal Fire maps indicate the site is not designated within a Very High Fire Hazard Severity Zone or a zone of higher severity for either state or local responsibility areas. The project site is in an area consisting of a mix of developed and agricultural land. Neither of these lands is prone to wildfires. The project would reduce the existing fire hazard on the project site by replacing existing grasses and weeds with development and landscaping. The project would have no impact related to exposure of project occupants to wildfire hazards.

c) Installation and Maintenance of Infrastructure.

The project proposes the installation of roads and parking areas and the extension of utilities. The installation of these facilities is not expected to exacerbate the wildfire risk on the project site, which is minimal as explained in b) above. The project would have no impact related to exacerbation of wildfire hazards by infrastructure improvements.

d) Risks from Runoff, Post-Fire Slope Instability, or Drainage Changes.

The project site is in a topographically flat area. There are no streams or other channels that cross the site. As such, it is not expected that people or structures would be exposed to significant risks from changes resulting from fires in steeper areas, including downslope or downstream flooding or landslides. The project would have no impact related to risks from runoff, post-fire slope instability, or drainage changes.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?		✓		
b) Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		✓		
c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?		✓		

NARRATIVE DISCUSSION

a) Findings on Biological and Cultural Resources.

The project's potential biological and cultural resource impacts were described in Sections 3.4 and 3.5, respectively. No potentially significant environmental effects were identified for biological resources. Potentially significant effects were identified for cultural

resources, but none that would not be reduced to a level that would be less than significant with mitigation.

b) Findings on Individually Limited but Cumulatively Considerable Impacts.

As described in this Initial Study, the potential environmental effects of the project would either be less than significant, or the project would have no impact at all, when compared to the baseline. Where the project involves potentially significant effects, these effects would be reduced to a level that is less than significant with proposed mitigation measures and compliance with required permits and applicable regulations.

The potential cumulative impacts of urban development of the site were accounted for in the Livingston General Plan EIR (1999b). The potential environmental effects identified in this Initial Study have been considered in conjunction with each other as to their potential to generate other potentially significant effects. The various potential environmental effects of the project would not combine to generate any potentially significant cumulative effects. There are no other known, similar projects with which the project might combine to produce adverse cumulative impacts.

The traffic study analyzed traffic operations associated with the project under cumulative conditions. Cumulative traffic volume forecasts were prepared based on a list of approved projects identified in consultation with City staff and representing development projects likely to add traffic in the study area (see Table 15 of traffic study in Appendix D). It was assumed that no future improvements to the SR 99/Hammatt Avenue interchange and the Hammatt Avenue/Campbell Boulevard intersection are made, to provide a more conservative analysis. Table 3-11 shows cumulative traffic flow conditions at the intersections analyzed in the traffic study. As indicated in Table 3-11, none of the intersections operate at an acceptable LOS during morning and evening peak hours.

TABLE 3-11
LOS AT STUDY INTERSECTIONS – CUMULATIVE CONDITIONS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Average Delay (sec.)	LOS	Average Delay (sec.)	LOS
Hammatt Ave./Campbell Blvd.					
Eastbound	East/west stop	**118.7**	**F**	**57.5**	**F**
Westbound		**>300**	**F**	**>300**	**F**
Hammatt Ave./SR 99 NB Ramps	All-way stop	**118.5**	**F**	**109.4**	**F**
Hammatt Ave./SR 99 SB Ramps	All-way stop	**87.3**	**F**	**56.6**	**F**
Hammatt Ave./F Street	All-way stop	**43.3**	**E**	**60.5**	**F**

Notes: **Bold** values indicate unacceptable City LOS (D, E or F).
Source: KD Anderson and Associates 2020.

Cumulative Plus Project-Phase 1

Table 3-12 shows estimated traffic operations under Cumulative Plus Project-Phase 1 conditions, with a more detailed analysis shown in the traffic study in Appendix D. As shown in Table 3-12, none of the intersections operate at an acceptable LOS during morning and evening peak hours.

TABLE 3-12
LOS AT STUDY INTERSECTIONS – CUMULATIVE PLUS PROJECT
PHASE 1 CONDITIONS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Average Delay (sec.)	LOS	Average Delay (sec.)	LOS
Hammatt Ave./Campbell Blvd.					
Eastbound	East/west stop	**>300**	**F**	**137.3**	**F**
Westbound		**>300**	**F**	**>300**	**F**
Hammatt Ave./SR 99 NB Ramps	All-way stop	**188.0**	**F**	**171.7**	**F**
Hammatt Ave./SR 99 SB Ramps	All-way stop	**103.1**	**F**	**69.9**	**F**
Hammatt Ave./F Street	All-way stop	**54.8**	**F**	**70.6**	**F**

Notes: **Bold** values indicate unacceptable City LOS (D, E or F).
Source: KD Anderson and Associates 2020.

With Phase 1, the addition of project-generated automobile and truck traffic onto the adjacent street system with background cumulative traffic would exacerbate conditions at all four intersections. This is an important traffic impact but not a significant effect under CEQA as discussed above. In addition to the transportation improvements described in Section 3.17, Transportation, improvements presented below would ensure that cumulative traffic conditions are consistent with City standards at the deficient intersections.

Mitigation Measures:

CUMUL-1: The project applicant or successors in interest shall be required to pay fair-share costs of improvements at the Hammatt Avenue/Campbell Boulevard intersection as described in Mitigation Measures TRANS-1 and TRANS-3, along with an addition of a westbound left-turn lane on Campbell Boulevard east of Hammatt Avenue, a conversion of the southbound right-turn lane to a through/right-turn lane, and the addition of a northbound-to-eastbound overlap phase.

CUMUL-2: The project applicant or successors in interest shall be required to pay fair-share costs of traffic signals or roundabouts at the Hammatt Avenue intersections with the SR 99 northbound ramps and the SR 99

southbound ramps as described in Mitigation Measure TRANS-2, along with the construction of a southbound right-turn lane on Hammett Avenue that extends to Campbell Boulevard.

CUMUL-3: The project applicant or successors in interest shall be required to pay fair-share costs of a traffic signal at the Hammatt Avenue/F Street intersections.

Cumulative Plus Project-Buildout

Table 3-13 shows estimated traffic operations under Cumulative Plus Project-Buildout conditions, with a more detailed analysis shown in the traffic study in Appendix D. As shown in Table 3-13, the resulting LOS at the intersections are the same as those under Phase 1 conditions.

TABLE 3-13
LOS AT STUDY INTERSECTIONS – CUMULATIVE PLUS PROJECT BUILDOUT CONDITIONS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Average Delay (sec.)	LOS	Average Delay (sec.)	LOS
Hammatt Ave./Campbell Blvd.					
Eastbound	East/west stop	>300	F	193.8	F
Westbound		>300	F	>300	F
Hammatt Ave./SR 99 NB Ramps	All-way stop	236.2	F	205.0	F
Hammatt Ave./SR 99 SB Ramps	All-way stop	114.3	F	78.2	F
Hammatt Ave./F Street	All-way stop	61.0	F	74.2	F

Notes: **Bold** values indicate unacceptable City LOS (D, E or F).
Source: KD Anderson and Associates 2020.

With buildout, the addition of project-generated automobile and truck traffic onto the adjacent street system with background cumulative traffic would exacerbate conditions at all four intersections. This is an important traffic impact, but not a significant effect under CEQA as discussed above. Transportation improvements CUMUL-1 through CUMUL-3, described above, would ensure that cumulative traffic conditions are consistent with City standards at the deficient intersections.

Ramp Junctions

As indicated in the evaluation of ramp terminal LOS under Existing Plus Project conditions, the planned widening of SR 99 to six lanes would improve conditions at the SR

99/Hammatt Avenue ramp junctions. No further analysis of ramp merge – diverge under cumulative conditions is necessary.

Intersection Queues

The traffic study notes that, if background development occurs and no improvements are made, then the southbound through traffic queues on Hammatt Avenue at the SR 99 NB ramps would extend beyond the Campbell Boulevard intersection. If the project is built out, then this queue would be longer, and the northbound queue would extend through the SB ramps intersection to F Street if no improvements are made. The transportation improvements needed to address LOS deficiencies would also deal with this issue. No additional improvements would be required.

However, under cumulative conditions at project buildout, the 95th percentile queue extending back on Campbell Boulevard from Hammatt Avenue is projected to extend beyond the proposed western driveway on the project site, and a safety impact may be created. The traffic study suggests two alternatives for dealing with this issue, either of which the project may choose to implementation. Implementation of either alternative would reduce safety impacts related to the western driveway under cumulative conditions to a level that would be less than significant.

Mitigation Measures:

CUMUL-4: The project applicant or successors in interest shall select and implement one of two alternatives related to traffic queuing at the western driveway:

1) Reconfiguration of the westbound Campbell Boulevard approach to allow left turns from two lanes. This change would equalize traffic volumes in each lane and reduce the queue lengths. This would require that the layout of the Hammatt Avenue/Campbell Boulevard intersection be wider to accommodate the concurrent turning paths of two STAA trucks. The project applicant or successors in interest shall be required to pay fair-share costs of improvements proposed by this alternative.

2) Left turns at the western driveway shall be prohibited. If determined to be needed by the City, the project proponents shall fund construction of a median treatment or other measure acceptable to the City to prohibit left turns.

c) Findings on Adverse Effects on Human Beings.

Potential adverse effects on human beings were discussed in Section 3.3, Air Quality; Section 3.7, Geology and Soils (seismic hazards); Section 3.9, Hazards and Hazardous Materials; Section 3.10, Hydrology and Water Quality (flooding); Section 3.17, Transportation (traffic hazards), and Section 3.20, Wildfire. Potential adverse effects on human beings were identified in those sections, but these effects would be reduced to levels that are considered less than significant through compliance with applicable laws,

regulations, and City ordinances and standards, along with mitigation measures described in this IS/MND that would reduce potential traffic safety impacts. No other potential adverse effects on human beings have been identified.

4.0 REFERENCES

4.1 DOCUMENT PREPARERS

This IS/MND was prepared by BaseCamp Environmental, Inc. for use by and under the supervision of the City of Livingston Community Development Department. The following persons were involved in preparation of the IS/MND:

City of Livingston Community Development Department

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4.3 PERSONS CONSULTED

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Randy Hatch, Contract Planner, Livingston Community Development Department

Chris Soria, Chief, Livingston Police Department

5.0 NOTES RELATED TO EVALUATION OF ENVIRONMENTAL IMPACTS

The following notes are included in the Environmental Information Checklist shown in Appendix G of the State CEQA guidelines. The notes provide guidance as to the proper use of the form.

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 [CEQA Guidelines 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 Incorporated," describe the mitigation measures, which ones 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 significance.

APPENDIX A
AIR QUALITY MODELING RESULTS

Livingston Truck Stop

Merced County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant w/o Drive Thru	2.63	1000sqft	0.06	2,625.00	0
Fast Food Restaurant with Drive Thru	9.00	1000sqft	0.21	9,004.00	0
Automobile Care Center	4.20	1000sqft	0.10	4,200.00	0
Convenience Market With Gas Pumps	9.57	1000sqft	0.22	9,570.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	49
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Construction Phase - No demolition

Consumer Products - Updating of ARB factor in CalEEMod.

Fleet Mix -

Livingston Truck Stop - Merced County, Annual

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	150	0
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	100.00	210.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	1.00	10.00
tblConsumerProducts	ROG_EF	2.14E-05	7.5E-06
tblLandUse	LandUseSquareFeet	2,630.00	2,625.00
tblLandUse	LandUseSquareFeet	9,000.00	9,004.00
tblOffRoadEquipment	HorsePower	231.00	226.00
tblOffRoadEquipment	HorsePower	187.00	174.00
tblOffRoadEquipment	HorsePower	130.00	125.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1262	0.6743	0.6197	1.0600e-003	0.0194	0.0361	0.0556	3.3700e-003	0.0333	0.0367	0.0000	93.2821	93.2821	0.0262	0.0000	93.9361
2022	0.0252	0.2561	0.2575	4.5000e-004	3.3900e-003	0.0128	0.0162	9.2000e-004	0.0118	0.0127	0.0000	40.1569	40.1569	0.0115	0.0000	40.4450
Maximum	**0.1262**	**0.6743**	**0.6197**	**1.0600e-003**	**0.0194**	**0.0361**	**0.0556**	**3.3700e-003**	**0.0333**	**0.0367**	**0.0000**	**93.2821**	**93.2821**	**0.0262**	**0.0000**	**93.9361**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1262	0.6743	0.6197	1.0600e-003	0.0130	0.0361	0.0491	2.6700e-003	0.0333	0.0360	0.0000	93.2820	93.2820	0.0262	0.0000	93.9360
2022	0.0252	0.2561	0.2575	4.5000e-004	3.3900e-003	0.0128	0.0162	9.2000e-004	0.0118	0.0127	0.0000	40.1569	40.1569	0.0115	0.0000	40.4450
Maximum	**0.1262**	**0.6743**	**0.6197**	**1.0600e-003**	**0.0130**	**0.0361**	**0.0491**	**2.6700e-003**	**0.0333**	**0.0360**	**0.0000**	**93.2820**	**93.2820**	**0.0262**	**0.0000**	**93.9360**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**28.13**	**0.00**	**8.93**	**16.32**	**0.00**	**1.42**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2021	8-31-2021	0.3109	0.3109
2	9-1-2021	11-30-2021	0.3862	0.3862
3	12-1-2021	2-28-2022	0.2740	0.2740
4	3-1-2022	5-31-2022	0.1107	0.1107
		Highest	0.3862	0.3862

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0407	0.0000	2.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.5000e-004	4.5000e-004	0.0000	0.0000	4.8000e-004
Energy	0.0142	0.1293	0.1086	7.8000e-004		9.8200e-003	9.8200e-003		9.8200e-003	9.8200e-003	0.0000	272.1939	272.1939	8.6400e-003	3.8100e-003	273.5453
Mobile	2.8304	10.9607	19.6543	0.0596	4.3595	0.0489	4.4084	1.1678	0.0456	1.2134	0.0000	5,484.7686	5,484.7686	0.4654	0.0000	5,496.4047
Waste						0.0000	0.0000		0.0000	0.0000	36.2867	0.0000	36.2867	2.1445	0.0000	89.8987
Water						0.0000	0.0000		0.0000	0.0000	1.4702	8.2130	9.6832	0.1514	3.6400e-003	14.5530
Total	**2.8853**	**11.0899**	**19.7631**	**0.0604**	**4.3595**	**0.0587**	**4.4182**	**1.1678**	**0.0554**	**1.2232**	**37.7569**	**5,765.1760**	**5,802.9329**	**2.7699**	**7.4500e-003**	**5,874.4022**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0407	0.0000	2.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.5000e-004	4.5000e-004	0.0000	0.0000	4.8000e-004
Energy	0.0142	0.1293	0.1086	7.8000e-004		9.8200e-003	9.8200e-003		9.8200e-003	9.8200e-003	0.0000	272.1939	272.1939	8.6400e-003	3.8100e-003	273.5453
Mobile	2.7418	10.4700	17.6327	0.0511	3.5421	0.0421	3.5842	0.9489	0.0392	0.9881	0.0000	4,706.1640	4,706.1640	0.4419	0.0000	4,717.2114
Waste						0.0000	0.0000		0.0000	0.0000	9.0717	0.0000	9.0717	0.5361	0.0000	22.4747
Water						0.0000	0.0000		0.0000	0.0000	1.1762	6.5704	7.7466	0.1211	2.9100e-003	11.6424
Total	**2.7967**	**10.5993**	**17.7415**	**0.0519**	**3.5421**	**0.0519**	**3.5940**	**0.9489**	**0.0490**	**0.9979**	**10.2478**	**4,984.9288**	**4,995.1766**	**1.1078**	**6.7200e-003**	**5,024.8742**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	3.07	4.42	10.23	14.06	18.75	11.56	18.65	18.75	11.45	18.42	72.86	13.53	13.92	60.01	9.80	14.46

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2021	5/31/2021	5	0	
2	Site Preparation	Site Preparation	6/15/2021	6/28/2021	5	10	
3	Grading	Grading	6/16/2021	6/22/2021	5	5	
4	Building Construction	Building Construction	6/18/2021	4/7/2022	5	210	
5	Paving	Paving	11/5/2021	11/11/2021	5	5	
6	Architectural Coating	Architectural Coating	11/12/2021	11/25/2021	5	10	

Acres of Grading (Site Preparation Phase): 18

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 38,099; Non-Residential Outdoor: 12,700; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	174	0.41
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	2.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	9.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.5400e-003	0.0000	9.5400e-003	1.0300e-003	0.0000	1.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1200e-003	0.0399	0.0337	5.0000e-005		2.2600e-003	2.2600e-003		2.0800e-003	2.0800e-003	0.0000	4.0959	4.0959	1.3200e-003	0.0000	4.1290
Total	**4.1200e-003**	**0.0399**	**0.0337**	**5.0000e-005**	**9.5400e-003**	**2.2600e-003**	**0.0118**	**1.0300e-003**	**2.0800e-003**	**3.1100e-003**	**0.0000**	**4.0959**	**4.0959**	**1.3200e-003**	**0.0000**	**4.1290**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	7.6000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1761	0.1761	1.0000e-005	0.0000	0.1763
Total	**1.0000e-004**	**7.0000e-005**	**7.6000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1761**	**0.1761**	**1.0000e-005**	**0.0000**	**0.1763**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.3000e-003	0.0000	4.3000e-003	4.6000e-004	0.0000	4.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1200e-003	0.0399	0.0337	5.0000e-005		2.2600e-003	2.2600e-003		2.0800e-003	2.0800e-003	0.0000	4.0959	4.0959	1.3200e-003	0.0000	4.1290
Total	**4.1200e-003**	**0.0399**	**0.0337**	**5.0000e-005**	**4.3000e-003**	**2.2600e-003**	**6.5600e-003**	**4.6000e-004**	**2.0800e-003**	**2.5400e-003**	**0.0000**	**4.0959**	**4.0959**	**1.3200e-003**	**0.0000**	**4.1290**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	7.6000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1761	0.1761	1.0000e-005	0.0000	0.1763
Total	**1.0000e-004**	**7.0000e-005**	**7.6000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1761**	**0.1761**	**1.0000e-005**	**0.0000**	**0.1763**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1200e-003	0.0000	2.1200e-003	2.3000e-004	0.0000	2.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9400e-003	0.0176	0.0199	3.0000e-005		9.8000e-004	9.8000e-004		9.4000e-004	9.4000e-004	0.0000	2.6121	2.6121	4.9000e-004	0.0000	2.6243
Total	**1.9400e-003**	**0.0176**	**0.0199**	**3.0000e-005**	**2.1200e-003**	**9.8000e-004**	**3.1000e-003**	**2.3000e-004**	**9.4000e-004**	**1.1700e-003**	**0.0000**	**2.6121**	**2.6121**	**4.9000e-004**	**0.0000**	**2.6243**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	7.6000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1761	0.1761	1.0000e-005	0.0000	0.1763
Total	**1.0000e-004**	**7.0000e-005**	**7.6000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1761**	**0.1761**	**1.0000e-005**	**0.0000**	**0.1763**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.5000e-004	0.0000	9.5000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9400e-003	0.0176	0.0199	3.0000e-005		9.8000e-004	9.8000e-004		9.4000e-004	9.4000e-004	0.0000	2.6121	2.6121	4.9000e-004	0.0000	2.6243
Total	**1.9400e-003**	**0.0176**	**0.0199**	**3.0000e-005**	**9.5000e-004**	**9.8000e-004**	**1.9300e-003**	**1.0000e-004**	**9.4000e-004**	**1.0400e-003**	**0.0000**	**2.6121**	**2.6121**	**4.9000e-004**	**0.0000**	**2.6243**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	7.6000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1761	0.1761	1.0000e-005	0.0000	0.1763
Total	**1.0000e-004**	**7.0000e-005**	**7.6000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1761**	**0.1761**	**1.0000e-005**	**0.0000**	**0.1763**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0543	0.5592	0.5106	8.0000e-004		0.0314	0.0314		0.0289	0.0289	0.0000	70.1711	70.1711	0.0227	0.0000	70.7385
Total	**0.0543**	**0.5592**	**0.5106**	**8.0000e-004**		**0.0314**	**0.0314**		**0.0289**	**0.0289**	**0.0000**	**70.1711**	**70.1711**	**0.0227**	**0.0000**	**70.7385**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.9000e-004	0.0312	6.5200e-003	8.0000e-005	1.8700e-003	1.0000e-004	1.9600e-003	5.4000e-004	9.0000e-005	6.3000e-004	0.0000	7.6033	7.6033	7.3000e-004	0.0000	7.6216
Worker	2.6600e-003	1.8200e-003	0.0193	5.0000e-005	5.0600e-003	4.0000e-005	5.1000e-003	1.3500e-003	4.0000e-005	1.3800e-003	0.0000	4.4700	4.4700	1.4000e-004	0.0000	4.4734
Total	**3.6500e-003**	**0.0331**	**0.0258**	**1.3000e-004**	**6.9300e-003**	**1.4000e-004**	**7.0600e-003**	**1.8900e-003**	**1.3000e-004**	**2.0100e-003**	**0.0000**	**12.0733**	**12.0733**	**8.7000e-004**	**0.0000**	**12.0950**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0543	0.5592	0.5106	8.0000e-004		0.0314	0.0314		0.0289	0.0289	0.0000	70.1710	70.1710	0.0227	0.0000	70.7384
Total	**0.0543**	**0.5592**	**0.5106**	**8.0000e-004**		**0.0314**	**0.0314**		**0.0289**	**0.0289**	**0.0000**	**70.1710**	**70.1710**	**0.0227**	**0.0000**	**70.7384**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.9000e-004	0.0312	6.5200e-003	8.0000e-005	1.8700e-003	1.0000e-004	1.9600e-003	5.4000e-004	9.0000e-005	6.3000e-004	0.0000	7.6033	7.6033	7.3000e-004	0.0000	7.6216
Worker	2.6600e-003	1.8200e-003	0.0193	5.0000e-005	5.0600e-003	4.0000e-005	5.1000e-003	1.3500e-003	4.0000e-005	1.3800e-003	0.0000	4.4700	4.4700	1.4000e-004	0.0000	4.4734
Total	**3.6500e-003**	**0.0331**	**0.0258**	**1.3000e-004**	**6.9300e-003**	**1.4000e-004**	**7.0600e-003**	**1.8900e-003**	**1.3000e-004**	**2.0100e-003**	**0.0000**	**12.0733**	**12.0733**	**8.7000e-004**	**0.0000**	**12.0950**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0235	0.2408	0.2461	3.9000e-004		0.0128	0.0128		0.0118	0.0118	0.0000	34.3617	34.3617	0.0111	0.0000	34.6395
Total	**0.0235**	**0.2408**	**0.2461**	**3.9000e-004**		**0.0128**	**0.0128**		**0.0118**	**0.0118**	**0.0000**	**34.3617**	**34.3617**	**0.0111**	**0.0000**	**34.6395**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5000e-004	0.0145	2.8800e-003	4.0000e-005	9.1000e-004	4.0000e-005	9.5000e-004	2.6000e-004	4.0000e-005	3.0000e-004	0.0000	3.6862	3.6862	3.5000e-004	0.0000	3.6949
Worker	1.2000e-003	7.9000e-004	8.5800e-003	2.0000e-005	2.4800e-003	2.0000e-005	2.4900e-003	6.6000e-004	2.0000e-005	6.8000e-004	0.0000	2.1091	2.1091	6.0000e-005	0.0000	2.1106
Total	**1.6500e-003**	**0.0153**	**0.0115**	**6.0000e-005**	**3.3900e-003**	**6.0000e-005**	**3.4400e-003**	**9.2000e-004**	**6.0000e-005**	**9.8000e-004**	**0.0000**	**5.7953**	**5.7953**	**4.1000e-004**	**0.0000**	**5.8055**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0235	0.2408	0.2461	3.9000e-004		0.0128	0.0128		0.0118	0.0118	0.0000	34.3616	34.3616	0.0111	0.0000	34.6395
Total	**0.0235**	**0.2408**	**0.2461**	**3.9000e-004**		**0.0128**	**0.0128**		**0.0118**	**0.0118**	**0.0000**	**34.3616**	**34.3616**	**0.0111**	**0.0000**	**34.6395**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5000e-004	0.0145	2.8800e-003	4.0000e-005	9.1000e-004	4.0000e-005	9.5000e-004	2.6000e-004	4.0000e-005	3.0000e-004	0.0000	3.6862	3.6862	3.5000e-004	0.0000	3.6949
Worker	1.2000e-003	7.9000e-004	8.5800e-003	2.0000e-005	2.4800e-003	2.0000e-005	2.4900e-003	6.6000e-004	2.0000e-005	6.8000e-004	0.0000	2.1091	2.1091	6.0000e-005	0.0000	2.1106
Total	**1.6500e-003**	**0.0153**	**0.0115**	**6.0000e-005**	**3.3900e-003**	**6.0000e-005**	**3.4400e-003**	**9.2000e-004**	**6.0000e-005**	**9.8000e-004**	**0.0000**	**5.7953**	**5.7953**	**4.1000e-004**	**0.0000**	**5.8055**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7800e-003	0.0166	0.0175	3.0000e-005		8.7000e-004	8.7000e-004		8.1000e-004	8.1000e-004	0.0000	2.3134	2.3134	6.7000e-004	0.0000	2.3302
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.7800e-003**	**0.0166**	**0.0175**	**3.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**2.3134**	**2.3134**	**6.7000e-004**	**0.0000**	**2.3302**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.3000e-004	1.3700e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3170	0.3170	1.0000e-005	0.0000	0.3173
Total	**1.9000e-004**	**1.3000e-004**	**1.3700e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3170**	**0.3170**	**1.0000e-005**	**0.0000**	**0.3173**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7800e-003	0.0166	0.0175	3.0000e-005		8.7000e-004	8.7000e-004		8.1000e-004	8.1000e-004	0.0000	2.3134	2.3134	6.7000e-004	0.0000	2.3302
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.7800e-003**	**0.0166**	**0.0175**	**3.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**2.3134**	**2.3134**	**6.7000e-004**	**0.0000**	**2.3302**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.3000e-004	1.3700e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3170	0.3170	1.0000e-005	0.0000	0.3173
Total	**1.9000e-004**	**1.3000e-004**	**1.3700e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3170**	**0.3170**	**1.0000e-005**	**0.0000**	**0.3173**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0589					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.0600**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0705	0.0705	0.0000	0.0000	0.0705
Total	**4.0000e-005**	**3.0000e-005**	**3.0000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0705**	**0.0705**	**0.0000**	**0.0000**	**0.0705**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0589					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.0600**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0705	0.0705	0.0000	0.0000	0.0705
Total	**4.0000e-005**	**3.0000e-005**	**3.0000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0705**	**0.0705**	**0.0000**	**0.0000**	**0.0705**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.7418	10.4700	17.6327	0.0511	3.5421	0.0421	3.5842	0.9489	0.0392	0.9881	0.0000	4,706.1640	4,706.1640	0.4419	0.0000	4,717.2114
Unmitigated	2.8304	10.9607	19.6543	0.0596	4.3595	0.0489	4.4084	1.1678	0.0456	1.2134	0.0000	5,484.7686	5,484.7686	0.4654	0.0000	5,496.4047

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	99.62	99.62	49.90	92,167	74,886
Convenience Market With Gas Pumps	6,000.39	8,730.52	6564.45	4,134,422	3,359,218
Fast Food Restaurant w/o Drive Thru	1,883.08	1,830.48	1315.00	2,893,611	2,351,059
Fast Food Restaurant with Drive Thru	4,465.08	6,498.27	4884.48	4,499,195	3,655,596
Total	12,448.17	17,158.89	12,813.82	11,619,395	9,440,759

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	9.50	7.30	7.30	33.00	48.00	19.00	21	51	28
Convenience Market With Gas	9.50	7.30	15.00	0.80	80.20	19.00	14	21	65
Fast Food Restaurant w/o Drive	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.510644	0.028911	0.156693	0.100614	0.015429	0.004164	0.015358	0.155771	0.002390	0.001975	0.005996	0.001496	0.000559
Convenience Market With Gas Pumps	0.613679	0.031816	0.154973	0.120992	0.008710	0.018915	0.001300	0.036075	0.002377	0.002347	0.006486	0.001616	0.000714
Fast Food Restaurant w/o Drive Thru	0.613679	0.031816	0.154973	0.120992	0.008710	0.018915	0.001300	0.036075	0.002377	0.002347	0.006486	0.001616	0.000714
Fast Food Restaurant with Drive Thru	0.613679	0.031816	0.154973	0.120992	0.008710	0.018915	0.001300	0.036075	0.002377	0.002347	0.006486	0.001616	0.000714

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	131.4721	131.4721	5.9400e-003	1.2300e-003	131.9872
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	131.4721	131.4721	5.9400e-003	1.2300e-003	131.9872
NaturalGas Mitigated	0.0142	0.1293	0.1086	7.8000e-004		9.8200e-003	9.8200e-003		9.8200e-003	9.8200e-003	0.0000	140.7218	140.7218	2.7000e-003	2.5800e-003	141.5581
NaturalGas Unmitigated	0.0142	0.1293	0.1086	7.8000e-004		9.8200e-003	9.8200e-003		9.8200e-003	9.8200e-003	0.0000	140.7218	140.7218	2.7000e-003	2.5800e-003	141.5581

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	87654	4.7000e-004	4.3000e-003	3.6100e-003	3.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	4.6776	4.6776	9.0000e-005	9.0000e-005	4.7054
Convenience Market With Gas Pumps	102399	5.5000e-004	5.0200e-003	4.2200e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	5.4644	5.4644	1.0000e-004	1.0000e-004	5.4969
Fast Food Restaurant w/o Drive Thru	552353	2.9800e-003	0.0271	0.0227	1.6000e-004		2.0600e-003	2.0600e-003		2.0600e-003	2.0600e-003	0.0000	29.4756	29.4756	5.6000e-004	5.4000e-004	29.6508
Fast Food Restaurant with Drive Thru	1.89462e+006	0.0102	0.0929	0.0780	5.6000e-004		7.0600e-003	7.0600e-003		7.0600e-003	7.0600e-003	0.0000	101.1042	101.1042	1.9400e-003	1.8500e-003	101.7050
Total		**0.0142**	**0.1293**	**0.1086**	**7.8000e-004**		**9.8300e-003**	**9.8300e-003**		**9.8300e-003**	**9.8300e-003**	**0.0000**	**140.7218**	**140.7218**	**2.6900e-003**	**2.5800e-003**	**141.5581**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	87654	4.7000e-004	4.3000e-003	3.6100e-003	3.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	4.6776	4.6776	9.0000e-005	9.0000e-005	4.7054
Convenience Market With Gas Pumps	102399	5.5000e-004	5.0200e-003	4.2200e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	5.4644	5.4644	1.0000e-004	1.0000e-004	5.4969
Fast Food Restaurant w/o Drive Thru	552353	2.9800e-003	0.0271	0.0227	1.6000e-004		2.0600e-003	2.0600e-003		2.0600e-003	2.0600e-003	0.0000	29.4756	29.4756	5.6000e-004	5.4000e-004	29.6508
Fast Food Restaurant with Drive Thru	1.89462e+006	0.0102	0.0929	0.0780	5.6000e-004		7.0600e-003	7.0600e-003		7.0600e-003	7.0600e-003	0.0000	101.1042	101.1042	1.9400e-003	1.8500e-003	101.7050
Total		**0.0142**	**0.1293**	**0.1086**	**7.8000e-004**		**9.8300e-003**	**9.8300e-003**		**9.8300e-003**	**9.8300e-003**	**0.0000**	**140.7218**	**140.7218**	**2.6900e-003**	**2.5800e-003**	**141.5581**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	37044	10.7765	4.9000e-004	1.0000e-004	10.8188
Convenience Market With Gas Pumps	77995.5	22.6898	1.0300e-003	2.1000e-004	22.7787
Fast Food Restaurant w/o Drive Thru	76046.3	22.1227	1.0000e-003	2.1000e-004	22.2094
Fast Food Restaurant with Drive Thru	260846	75.8831	3.4300e-003	7.1000e-004	76.1804
Total		**131.4721**	**5.9500e-003**	**1.2300e-003**	**131.9872**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	37044	10.7765	4.9000e-004	1.0000e-004	10.8188
Convenience Market With Gas Pumps	77995.5	22.6898	1.0300e-003	2.1000e-004	22.7787
Fast Food Restaurant w/o Drive Thru	76046.3	22.1227	1.0000e-003	2.1000e-004	22.2094
Fast Food Restaurant with Drive Thru	260846	75.8831	3.4300e-003	7.1000e-004	76.1804
Total		**131.4721**	**5.9500e-003**	**1.2300e-003**	**131.9872**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0407	0.0000	2.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.5000e-004	4.5000e-004	0.0000	0.0000	4.8000e-004
Unmitigated	0.0407	0.0000	2.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.5000e-004	4.5000e-004	0.0000	0.0000	4.8000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.8900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0348					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.5000e-004	4.5000e-004	0.0000	0.0000	4.8000e-004
Total	**0.0407**	**0.0000**	**2.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.5000e-004**	**4.5000e-004**	**0.0000**	**0.0000**	**4.8000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.8900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0348					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.5000e-004	4.5000e-004	0.0000	0.0000	4.8000e-004
Total	**0.0407**	**0.0000**	**2.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.5000e-004**	**4.5000e-004**	**0.0000**	**0.0000**	**4.8000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.7466	0.1211	2.9100e-003	11.6424
Unmitigated	9.6832	0.1514	3.6400e-003	14.5530

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.395141 / 0.242183	0.9940	0.0129	3.1000e-004	1.4098
Convenience Market With Gas Pumps	0.708874 / 0.434471	1.7831	0.0232	5.6000e-004	2.5292
Fast Food Restaurant w/o Drive Thru	0.798294 / 0.0509549	1.5618	0.0261	6.3000e-004	2.4002
Fast Food Restaurant with Drive Thru	2.7318 / 0.17437	5.3444	0.0892	2.1400e-003	8.2137
Total		**9.6832**	**0.1514**	**3.6400e-003**	**14.5530**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.316113 / 0.193746	0.7952	0.0103	2.5000e-004	1.1279
Convenience Market With Gas Pumps	0.567099 / 0.347577	1.4265	0.0185	4.5000e-004	2.0234
Fast Food Restaurant w/o Drive Thru	0.638635 / 0.0407639	1.2494	0.0209	5.0000e-004	1.9202
Fast Food Restaurant with Drive Thru	2.18544 / 0.139496	4.2755	0.0714	1.7100e-003	6.5710
Total		**7.7466**	**0.1211**	**2.9100e-003**	**11.6424**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	9.0717	0.5361	0.0000	22.4747
Unmitigated	36.2867	2.1445	0.0000	89.8987

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	16.04	3.2560	0.1924	0.0000	8.0665
Convenience Market With Gas Pumps	28.76	5.8380	0.3450	0.0000	14.4635
Fast Food Restaurant w/o Drive Thru	30.29	6.1486	0.3634	0.0000	15.2329
Fast Food Restaurant with Drive Thru	103.67	21.0441	1.2437	0.0000	52.1358
Total		**36.2867**	**2.1445**	**0.0000**	**89.8987**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	4.01	0.8140	0.0481	0.0000	2.0166
Convenience Market With Gas Pumps	7.19	1.4595	0.0863	0.0000	3.6159
Fast Food Restaurant w/o Drive Thru	7.5725	1.5372	0.0908	0.0000	3.8082
Fast Food Restaurant with Drive Thru	25.9175	5.2610	0.3109	0.0000	13.0340
Total		**9.0717**	**0.5361**	**0.0000**	**22.4747**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B
BIOLOGICAL RESOURCES REPORTS

Element_Type	Scientific_Name	Common_Name	Element_Code	Federal_Status	State_Status	CDFW_Status	CA_Rare_Plant_Rank	Quad_Code	Quad_Name	Data_Status	Taxonomic_Sort
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3712046	CRESSEY	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3712046	CRESSEY	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3712046	CRESSEY	Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC	-	3712046	CRESSEY	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Fish	Entosphenus hubbsi	Kern brook lamprey	AFBAA02040	None	None	SSC	-	3712046	CRESSEY	Unprocessed	Animals - Fish - Petromyzontidae - Entosphenus hubbsi
Animals - Fish	Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC	-	3712046	CRESSEY	Unprocessed	Animals - Fish - Petromyzontidae - Entosphenus tridentatus
Animals - Fish	Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3712046	CRESSEY	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 11
Animals - Fish	Oncorhynchus tshawytscha pop. 13	chinook salmon - Central Valley fall / late fall-run ESU	AFCHA0205N	None	None	SSC	-	3712046	CRESSEY	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 13
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3712046	CRESSEY	Mapped	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Reptiles	Gambelia sila	blunt-nosed leopard lizard	ARACF07010	Endangered	Endangered	FP	-	3712046	CRESSEY	Unprocessed	Animals - Reptiles - Crotaphytidae - Gambelia sila
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3712046	CRESSEY	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3712046	CRESSEY	Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3712046	CRESSEY	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Plants - Vascular	Castilleja campestris var. succulenta	succulent owl's-clover	PDSCR0D3Z1	Threatened	Endangered	-	1B.2	3712046	CRESSEY	Mapped	Plants - Vascular - Orobanchaceae - Castilleja campestris var. succulenta
Plants - Vascular	Orcuttia inaequalis	San Joaquin Valley Orcutt grass	PMPOA4G060	Threatened	Endangered	-	1B.1	3712046	CRESSEY	Mapped	Plants - Vascular - Poaceae - Orcuttia inaequalis

APPENDIX C
CULTURAL RESOURCES REPORTS

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: 5/14/2020

Records Search File#: 11395L
Project: Livingston Truck Stop, Livingston, California

Terry L. Farmer
BaseCamp Environmental, Inc.
115 South School Street, Suite 14
Lodi, CA 95240
209-224-8213

tfarmer@basecampenv.com

Dear Mr. Farmer:

We have conducted a records search as per your request for the above-referenced project area located on the Cressey 7.5' 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 following:

National Register of Historic Places (NRHP)
California Register of Historical Resources (CRHR)
California Inventory of Historic Resources (1976)
California Historical Landmarks
California Points of Historical Interest listing
Office of Historic Preservation Built Environment Resource Directory (BERD) and the Archaeological Determinations of Eligibility (ADOE)
Survey of Surveys (1989)
Caltrans State and Local Bridges Inventory
General Land Office Plats
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:

- There are no formally recorded prehistoric or historic archaeological resources or historic buildings within the project area.

- The project area does fall within the proposed boundaries of the Merced Irrigation District (P-24-001909) which was created between 1870-1922, establishing irrigation canals and ditches. There are no recorded contributing water feature elements of the district within the project area.

- The General Land Office Survey Plat for T6S R11E (dated 1/31/1855) does not show any historic features within Section 25.

Prehistoric or historic resources within the immediate vicinity of the project area: There are no formally recorded prehistoric or historic archaeological resources or historic buildings within the immediate vicinity of the project area.

Resources that are known to have value to local cultural groups: None has been formally reported to the Information Center.

Previous investigations within the project area: The project has been subject to seven previous investigations, referenced in the following 11 documents:

CCIC Report ME-01549
Soule, W. (CSU Sacramento, Archeology Study Center; prepared for Caltrans District 10)
1975 *An Archaeological Impact Study of California Department of Transportation Project 10-MER-99 27.8/32.8.*

CCIC Report ME-03346
O'Connor, Denise (Caltrans District 10)
1984 *Historical Architectural Survey Report for the Livingston Freeway Project in Merced County, California, 10-MER-99, PM 26.8/32.8, 10101-043761.*

CCIC Report ME-03354
Oman, P. (Caltrans District 10)
1984 *Attachment B: Archaeological Survey Report for the Livingston Project, A Proposed Upgrading/Realignment of Highway 99 in Merced County, 10-MER-99, P.M. 26.8/32.8, 10101-043761.*

CCIC Report ME-03631
Quad Knopf (Quad Knopf; for City of Livingston)
1999 *General Plan, Livingston, California.*

CCIC Report ME-04008
Hibbard, C. (California Department of Transportation)
2000 *Negative Archaeological Survey Report. 10-MER-99, PM 28.8, 10-170, EA 10-952138.*

CCIC Report ME-04184
California Department of Transportation (Department of Transportation)
2001 *Supplementary Historic Property Survey Report: Livingston Freeway Project (Re-evaluation), 10-MER-99, P.M. 26.5/28.8, EA 316960.*

CCIC Report ME-04184A
Wickstrom, B. (Associate Environmental Planner, Cultural Resource Branch, Central Region)
2001 *First Supplemental Archaeological Survey Report for the Livingston Freeway Project Re-evaluation Merced County, California (10-MER-99, P.M. 26.5/28.8, EA 316960).*

CCIC Report ME-04184B
O'Connor, D. (Department of Transportation)
1984 *Historical Architectural Survey Report for the Livingston Freeway Project in Merced County, California.*

CCIC Report ME-04184C
Oman, P. (Department of Transportation)
1984 *Archaeological Survey Report for the Livingston Project a Proposed Upgrade/Realignment of Highway 99 in Merced County.*

CCIC Report ME-04184D
Hope, A. (California Department of Transportation)
2000 *Second Supplementary Historic Architecture Survey Report for the Livingston Freeway Project (Re-evaluation) State Route 99, Merced County.*

CCIC Report ME-04620
Farquhar, F. S.
1944 *History of Livingston, California--Narrative and Biography (Excerpts).*

Recommendations/Comments: Based on existing data in our files the project area has a low sensitivity for the possible discovery of prehistoric or historic resources. Since the project area has been subject to previous investigations, no recommendations for further study are offered at this time.

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.

If at any time you might require the services of a qualified professional the Statewide Referral List for Historical Resources Consultants is posted for your use on the internet at http://chrisinfo.org

If archaeological resources are encountered during project-related activities, 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.

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.

If you wish to include payment by Credit Card, you must wait to receive the official invoice from Financial Services so that you can reference the CMP # (Invoice Number), and then contact the link below:
https://commerce.cashnet.com/ANTHROPOLOGY

Sincerely,

E. A. Greathouse

E. A. Greathouse, Coordinator
Central California Information Center
California Historical Resources Information System

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

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

June 8, 2020

Terry Farmer

BaseCamp Environmental, Inc.

Via Email to: tfarmer@basecampenv.com

Re: Livingston Truck Stop Project, Merced County

Dear Mr. Farmer:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,

Nancy Gonzalez-Lopez
Cultural Resources Analyst

Attachment

APPENDIX D
TRAFFIC IMPACT STUDY

TRANSPORTATION IMPACT ANALYSIS

FOR

MOONGLO TRUCK STOP
Livingston, CA

Prepared For:

HAWKINS & ASSOCIATES
435 Mitchell Road
Modesto, CA 95354

Prepared By:

KD Anderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, California 95650
(916) 660-1555

July 24, 2020

3620-16

Moonglo Truck Stop.rpt

TRANSPORTATION IMPACT ANALYSIS FOR
MOONGLO TRUCK STOP
Livingston, CA

TABLE OF CONTENTS

KDA

TRANSPORTATION IMPACT ANALYSIS FOR
MOONGLO TRUCK STOP
Livingston, CA

INTRODUCTION

This report summarizes KD Anderson & Associates analysis of the potential Transportation impacts associated with development of the Moonglo Truck Stop Project in Livingston, California. The 20± acre project site is located in the area north of State Route 99 and east of Hammatt Avenue as noted in Figure 1. The project as assumed herein would be developed in two phases. The first phase involves construction of a truck stop. The second phase involves construction of three freestanding quick serve restaurants on the site.

The purpose of this analysis is to identify the potential transportation-related impacts of the project within the context of current conditions in Livingston as well as the cumulative impacts of the entire project within the context of future traffic conditions in the Livingston area. This analysis includes evaluation of existing traffic operating conditions in the area based upon current weekday a.m. and p.m. peak hour traffic volumes. The extent to which improvements may already be needed to meet minimum standards has been determined. The characteristics of the proposed project have been determined based on probable peak hour and daily trip generation, regional trip distribution and local trip assignment. Forecasts for future year traffic conditions, including other development identified by the City of Livingston have been analyzed with and without the proposed project. The project's impact to alternative transportation modes has also been considered. Mitigation measures needed to ensure satisfactory operation of study area intersections under each development scenario are recommended.


HAWKINS & ASSOCIATES
ENGINEERING, INC
PRELIMINARY SITE PLAN
PROPOSED TRAVEL CENTER

SITE PLAN

EXISTING SETTING

Existing Street and Highway System

Streets and Highways. The Moonglo Truck Stop will be served by a state highway and several major Livingston roadways. Primary regional access is provided by State Route 99. Other access is available via Hammatt Avenue and Campbell Blvd.

State Route 99 is the primary north-south transportation corridor through Merced County. In the vicinity of the project site, it has a west-northwest to east-southeast alignment. SR 99 is a controlled access freeway with a six-lane width southeast of Hammatt Avenue and a four-lane width northwest of Hammatt Avenue. Project access to SR 99 is primarily provided via the Hammatt Avenue interchange, which is immediately adjoined to the site and by the Sultana Drive – Liberty Avenue interchange which is two miles to the east via Campbell Blvd. The most recent traffic count data available from Caltrans (2017) indicate that SR 99 carries an average annual daily traffic (AADT) volume of 60,000 to 62,000 vehicles per day and peak hour volume of 5,500 to 5,800 in the vicinity of the project site (California Department of Transportation 2020). Trucks comprise 24% of the daily traffic volume on SR 99 in this area.

Hammatt Avenue is designated an arterial street in the *Circulation Element* of the *General Plan – Livingston, California* (Livingston 1999). The Hammatt Avenue interchange is one of two interchanges providing the Livingston area with access to SR 99. Within the study area, Hammatt Avenue is a north-south two lane roadway, although the Circulation Element of the Livingston General Plan notes that a five lane section is planned. Hammatt Avenue begins at an intersection on Peach Avenue and continues north across SR 99 to its northern terminus at Olive Avenue at the northern City limits. The posted speed limit is 40 mph in the area of the project. Hammatt Avenue's southern terminus is at Peach Avenue. North of F Street in the vicinity of the interchange with SR 99, the adjacent land uses include existing, approved and proposed non-residential uses. Traffic count data collected in 2019 indicated a daily traffic volume on Hammatt Avenue south of SR 99 of 9,222 vehicles per day. The daily volume north of SR 99 is estimated to be 10,800 ADT based on the peak hour traffic counts collected for this analysis.

Campbell Blvd is also designated an arterial street in the *Circulation Element*. Campbell Blvd lies parallel to and north of SR 99 and extends from the SR 99 / Winton Parkway interchange across Hammatt Avenue into Merced County and the SR 99 / Sultana Drive – Liberty Avenue interchange. Within the study area, Campbell Blvd is a two-lane roadway. Ultimately the road's 110 foot right of way can accommodate two travel lanes in each direction and a center left turn median area. The posted speed limit is 40 mph. In the study area east of Hammatt Avenue, adjacent land uses are primarily light industrial. The daily traffic volume is estimated to be 1,800 ADT on Campbell Blvd east of Hammatt Avenue.

F Street is an east-west street that traverses Livingston in the area south of SR 99. F Street originates at the Flint Avenue / Robin Avenue intersection and continues easterly across Hammatt Avenue to Dwight Way. This two-lane roadway is designated a Collector in the Circulation Element. The posted speed limit is 25 mph west of Hammatt Avenue. The land uses along F Street west of Hammatt Avenue are primarily residential, while agricultural and

commercial uses exist in the east. Based on the peak hour volume collected for the study the daily traffic volume west of Hammatt Avenue is estimated to be 3,850 ADT.

Industrial Drive is a local street that provides access to the commercial area east of Hammatt Avenue and north of Campbell Blvd. This two-lane street intersects Campbell Blvd about 500 feet east of the Hammatt Avenue intersection and extends northerly for 1,100 feet to Walnut Avenue. The land uses along Industrial Drive are light-industrial / warehousing.

Connection to SR 99. The ***SR 99 / Hammatt Avenue interchange*** is a diamond configuration with roughly 550 feet between ramp intersections. Under Caltrans convention SR 99 is a north-south freeway, and the ramps are thus designated "northbound" and "southbound" even though the alignment of the freeway through Livingston is east to west. Campbell Blvd intersects Hammatt Avenue about 430 feet from the SR 99 NB ramps intersection, and the F Street intersection is about 725 feet from the SR 99 SB ramps. The SR 99 off-ramps terminate at all-way stop controlled intersections. The SB off-ramp is 1,330 feet long (gore to limit line), and the NB off-ramp is 1,240 feet long. The on-ramp areas are of similar length. Both the NB on-ramp and SB on-ramp area about 1,350 feet long and are followed by a 250 foot long auxiliary lanes. Caltrans publishes daily traffic volume information for freeway ramps, and the most recent data is summarized in Table 1.

TABLE 1
STGATE ROUTE 99 RAMPS DAILY VOLUMES

Direction on SR 99	Location	Year	Daily Volume
Southbound	Off-ramp to Winton Parkway	2016	8,338
	On-ramp from Winton Parkway	2016	1,291
	Off-ramp to Hammatt Avenue	2012	2,540
	On-ramp from Hammatt Avenue	2012	2,850
Northbound	Off-ramp to Hammatt Avenue	2016	2,829
	On-ramp from Hammatt Avenue	2016	1,057
	Off-ramp to Winton Parkway	2016	2,991
	On-ramp from Winton Parkway	2012	6,100

Study Intersections

Study Locations. In urban areas the quality of flow of traffic is often governed by the operation of intersections, and the operation of the following four existing intersections was analyzed for this study:

1. Hammatt Avenue / Campbell Blvd
2. Hammatt Avenue & SR 99 Northbound Ramps
2. Hammatt Avenue & SR 99 Southbound Ramps
3. Hammatt Avenue & F Street

The **Hammatt Avenue / Campbell Blvd intersection** is controlled by stop signs on the eastbound and westbound Campbell Blvd approaches. The three-lane Hammatt Avenue approaches each have separate left turn, through and right turn lanes. The eastbound Campbell Blvd approach has a separate right turn lane, and the westbound approach near the project is a single lane.

The **Hammatt Avenue / SR 99 NB ramps intersection** is controlled by all-way stop signs. Each approach has two lanes, with a separate left turn lane on the northbound approach and separate right turn lanes on southbound Hammatt Avenue and on the off-ramp. The intersection limit lines have been pulled back to accommodate the turning requirements of trucks.

The **Hammatt Avenue / SR 99 SB ramps intersection** is also controlled by all-way stop signs, and the intersection layout is similar to the NB Ramp intersection. Each approach has two lanes, with a separate left turn lane on the southbound approach and right turn lanes on northbound Hammatt Avenue and on the off-ramp. The intersection limit lines have been pulled back to accommodate the turning requirements of trucks.

The **Hammatt Avenue / F Street intersection** is controlled by all-way stop signs. Each approach has a single lane.

Alternative Transportation Modes

Sidewalks. Concrete sidewalks exist at various locations along most City of Livingston streets but become less prevalent in outlying areas of the community where development has not yet occurred. As noted in Table 2, there are sidewalks on one side of Hammatt Avenue through the study area and on the north side of Campbell Blvd west of Hammatt Avenue.

TABLE 2
SIDEWALK INVENTORY

Street	From	To	Side	Sidewalk
Hammatt Avenue	Walnut Avenue	Campbell Blvd	West	Yes
			East	Partial
	Campbell Blvd	NB SR 99 ramps	West	Yes
			East	No
	NB SR 99 ramps	SB SR 99 ramps	West	Yes
			East	No
	SB SR 99 ramps	F Street	West	Yes
			East	No
Campbell Blvd	East Avenue	Hammatt Avenue	North	Yes
			South	No
	Hammatt Avenue	Dwight Way	North	No
			South	No

Bicycle Facilities. According to Caltrans guidelines, bicycle facilities are generally divided into four categories:

- Class I Bikeway (Bike Path). A completely separate facility designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized.

- Class II Bikeway (Bike Lane). A striped lane designated for the use of bicycles on a street or highway. Vehicle parking and vehicle/pedestrian cross-flow are permitted at designated locations.

- Class III Bikeway (Bike Route). A route designated by signs or pavement markings for bicyclists within the vehicular travel lane (i.e., shared use) of a roadway.

- Class IV Bikeway (Separated Bikeway). A bikeway for the exclusive use of bicycles and includes a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible posts, inflexible barriers, or on-street parking.

The City of Livingston adopted a Bicycle Plan in November 2005. Both the Bicycle Plan and Livingston's General Plan identify the need to establish a safe and efficient transportation system that provides adequate access throughout the city, as well as routes that provide alternatives to motor vehicle travel. The City of Livingston currently has no designated bicycle facilities in the immediate area of the project site.

Public Transit. There are a variety of transit options available in Merced County. The level of transit service available to Merced County residents has increased since transit was introduced to the area in 1974. Historically, public transit has developed in response to the basic transportation needs of Merced's transit-dependent population and has maintained that standard of service.

Bus Service. The Bus, Merced's Regional Transit System, was formed from the consolidation of four former local public transit service providers in July 1996. Today "The Bus" is the single public transportation service provider for all of Merced County.

The Bus is administered and governed by the Transit Joint Powers Authority for Merced County. The authority is made up of an 11 member board of elected officials: one each from the cities of Atwater, Dos Palos, Gustine, Livingston, Los Banos, and Merced, along with five members of the Board of Supervisors of the County of Merced, California.

Currently, buses are operating on 16 fixed routes with another set of buses providing Paratransit service. The Bus carries approximately 1,000,000 passengers per year. (http://www.mercedthebus.com/).

The Bus provides two routes in the Livingston area:

- *Route L, the Livingston Commuter*, operates between Livingston and the City of Merced. In the vicinity of the project site, this route provides service along Walnut Avenue to a stop at the Franci Street intersection approximately ½ mile north of the project site.

- *Route T, the Turlock Commuter,* operates between Turlock and the City of Merced. This route provides service along Hammatt Avenue to the Walnut Avenue / Franci Street stop.

Dial-A-Ride. Dial-A-Ride service is primarily for use by senior citizens, the handicapped, or those without a regularly scheduled fixed route bus operating within one mile of their residence. Dial-A-Ride is available to the general public except in the cities of Merced and Los Banos.

In the cities of Merced and Los Banos, Dial-A-Ride service is reserved for the exclusive use by the elderly (age 60 and older) and the handicapped. All Dial-A-Ride users in these two cities must register for Dial-A-Ride service.

Dial-A-Ride is generally open for service from 7:00 a.m. to 6:00 p.m. Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturday. However, service hours may vary from community to community depending on ridership demand.

Traffic Operational Analysis

Methods. To quantitatively evaluate traffic conditions and to provide a basis for comparison of operating conditions with and without project-generated traffic, Level of Service (LOS) was determined at study intersections.

LOS is a quantitative measure of traffic operating conditions using a letter grade A through F. LOS A through F represents progressively worsening traffic conditions. The characteristics associated with the various LOS for intersections are presented in **Table 3**. The City of Livingston designates LOS C as their minimum standard, while the *Circulation Element* of the *2030 Merced County General Plan* (County of Merced 2013) establishes LOS C as the minimum acceptable condition in rural portions of the County and LOS D as the urban standard.

TABLE 3
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.

Sources: Highway Capacity Manual, 6th Edition.

LOS were calculated for study intersections using the applicable methodology contained in the *Highway Capacity Manual 6th Edition* (Transportation Research Board 2016). The text that follows summarizes this methodology.

Signalized Intersections. The methodology employed for determining LOS at signalized intersections makes use of data describing traffic volume, intersection geometry and traffic signal timing to calculate the overall average delay per vehicle passing through the intersection. This average delay is compared to the prescribed thresholds to identify the applicable LOS. When signalized, the study intersections were evaluated using SYNCHRO software (Trafficware 2020) and SimTraffic micro-simulation for this traffic impact study.

Unsignalized Intersections. The procedure for calculating the LOS at unsignalized intersections is based on the relative availability of gaps in traffic and the delay experienced for each movement that must yield the right-of-way. The number of gaps is a function of the volume and speed of conflicting traffic, type of control (stop or yield), and intersection geometrics. While the length of average delays and LOS can be calculated for each movement, an overall

"weighted" LOS can be calculated, and overall LOS is the basis for analysis of intersection controlled by all-way stop signs. All study intersections were evaluated using SYNCHRO software (Trafficware 2020) and HCM methods.

LOS at unsignalized intersections that are controlled by side street stops is indicative of the magnitude of the delay incurred by motorists turning at the intersection. However, because these calculations exclude the condition of through traffic flow (which is assumed to flow freely), unsignalized poor LOS may not be judged to be significant unless the volume of traffic also satisfies warrants for traffic signals.

While the unsignalized LOS may indicate very long delays (e.g., LOS E or F) traffic conditions are generally not assumed to be significant unless a significant number of motorists are delayed. For this analysis, the satisfaction of traffic signal warrants has been used to suggest the significance of unsignalized LOS. Although satisfying signal warrants signifies that an intersection has unacceptable operating conditions, it does not mean that installation of a signal is the only way to mitigate those conditions. It is often possible to improve an intersection with additional lanes or improved geometrics so that signalization is not necessary.

Roundabouts. Caltrans policy regarding applicable traffic controls on state highways is based on Policy Directive 13-02. This directive requires that Caltrans consider the relative merits of alternative traffic controls when it becomes necessary to stop traffic on state highways. Roundabouts LOS is calculated based on HCM delays using SIDRA software.

Traffic Signal Warrants Procedures. Traffic signal warrants are a series of standards which provide guidelines for determining if a traffic signal is appropriate. Because available data are limited to a.m. and p.m. peak hour volumes un-signalized intersections were evaluated using the Peak Hour Warrant (Warrant Number 3) from the California Department of Transportation document *Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* (MUTCD) (California Department of Transportation 2012). "Urban" analysis criteria were employed based on the speed limit speed limit on Hammatt Avenue (i.e., ≤40 mph).

Intersection Queues. The length of peak period queues at study intersections was determined as a byproduct of HCM LOS analysis at unsignalized intersections and as a result of the simulation at signalized locations.

Standards. In this study, project-related impacts and the need for improvements are based on minimum LOS established by agencies responsible for maintaining roadways. The **City of Livingston *Circulation Element* of the *General Plan*** – *Livingston, California* (Livingston 1999) designates LOS C as their minimum standard.

The City of Livingston is in the process of updating its General Plan, and it is possible that the City policies regarding traffic circulation goals will change as the document responds to the requirements of SB 743. The City may consider Level of Service goals which are more consistent with those adopted by other Merced County communities (i.e., LOS D).

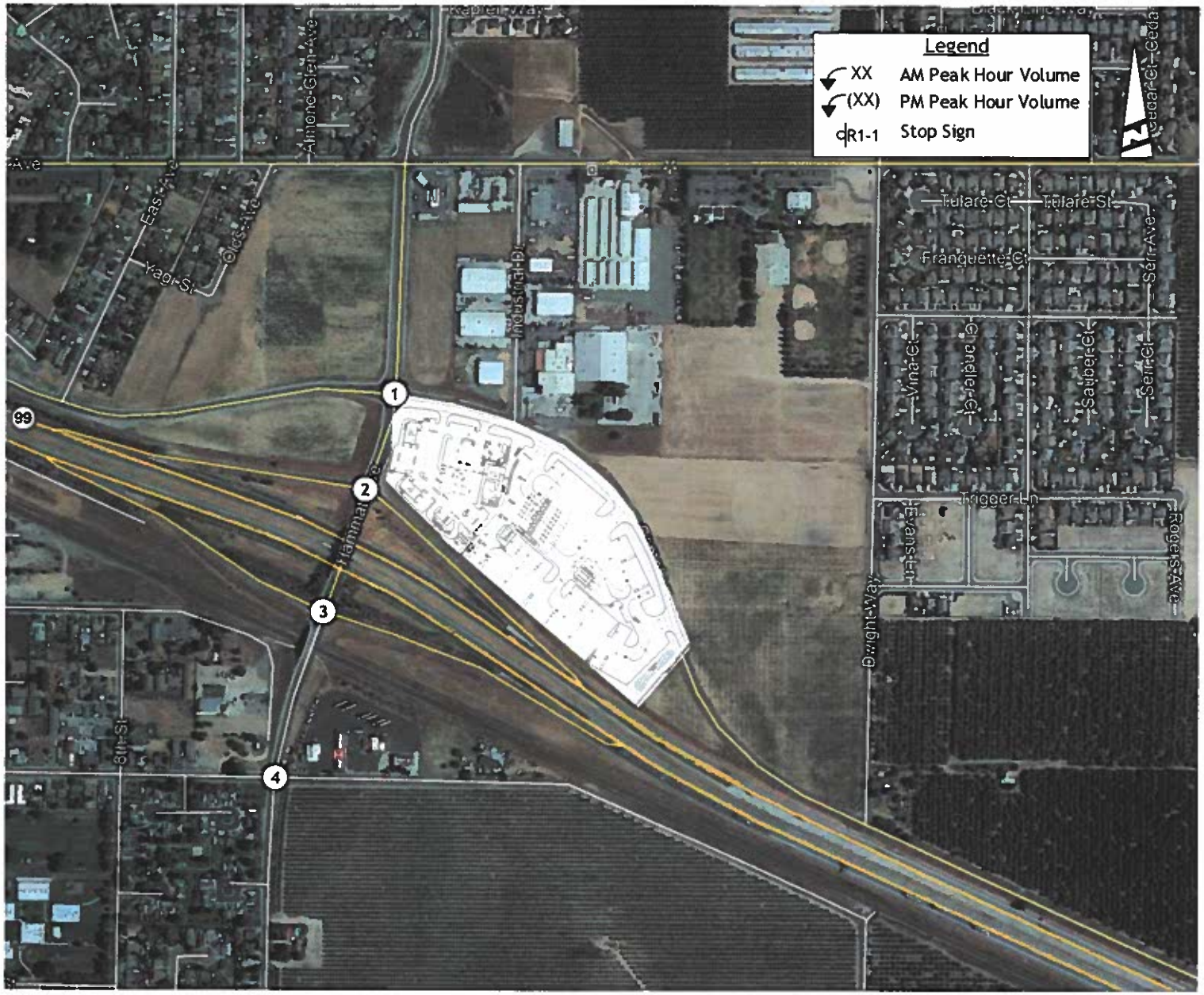
The **Merced County General Plan Circulation Element** establishes LOS C as the minimum acceptable condition in rural portions of the County and LOS D as the urban standard.

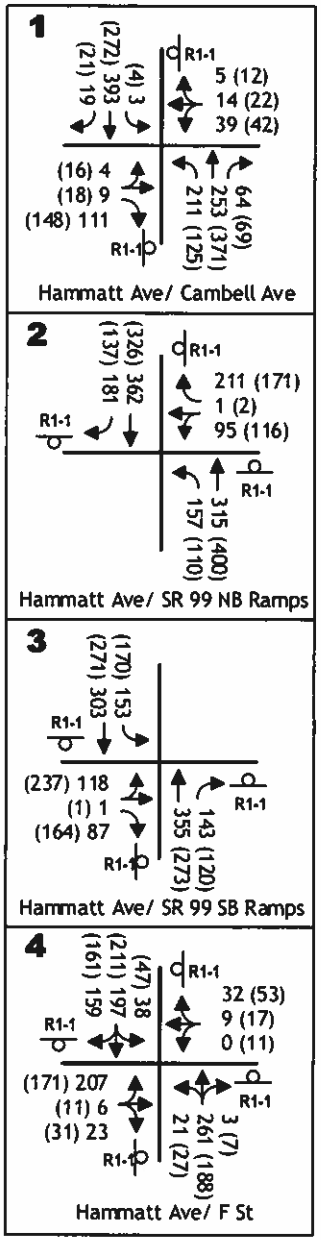
The Caltrans document *Transportation Concept Report – State Route 99 - District 10* (California Department of Transportation 2017) (TCR) identifies LOS D as the concept LOS in rural portions of SR 99 and LOS D as the concept LOS in urban portions. The TCR identifies the portion of SR 99 southeast of Hammatt Avenue as rural, and the portion between Hammatt Avenue and the Winton Parkway as urban.

More detail on the minimum LOS established by agencies is presented in the *Regulatory Setting* section of this traffic impact study.

Existing Traffic Volumes. To quantify existing traffic conditions, available peak hour intersection turning movement count data was reviewed and selected for study intersections. Traffic counts made on Tuesday November 5, 2019 were available for the Hammatt Avenue intersections at F Street and at the SR 99 interchange, and data collected in 2018 for the ARCO project traffic study was available for the Campbell Blvd intersection. All count data was collected during the 7:00 a.m. to 9:00 a.m. morning peak period and the 4:00 p.m. to 6:00 p.m. evening peak period when schools were in normal session. The Campbell Blvd / Hammatt Avenue traffic counts were adjusted to match the newer count volumes on Hammatt Avenue at the interchange.

Existing peak hour traffic volume data, as well as current intersection traffic controls and intersection lane geometry, are presented in Figure 2.





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EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

figure 2

Current Peak Hour Traffic Conditions. Current a.m. and p.m. peak hour LOS were calculated at existing study intersections under Existing conditions. The results of this analysis are presented in Table 4. The LOS calculation worksheets for Existing conditions are presented in the Appendix.

As shown in Table 4, two of the study intersections currently operate with peak hour Level of Service that exceed the City's minimum LOS C standard.

The westbound approach at the ***Hammatt Avenue / Campbell Blvd intersection*** operates at LOS F in the a.m. peak hour and LOS E in the p.m. peak hour. However, current traffic volumes do not reach the level that satisfy peak hour traffic signal warrants. Measures to improve operation at this location would involve widening the intersection to provided auxiliary lanes, installing a traffic signal or constructing a roundabout intersection. The City of Livingston is currently in the process of preparing construction plans for intersection improvements, including a traffic signal, for this location.

The ***Hammatt Avenue / SR 99 NB ramps intersection*** operates at LOS E in the a.m. peak hour and LOS D in the p.m. peak hour. Current volumes reach the level that satisfies peak hour traffic signal warrants in the a.m. peak hour. Measures to improve operation at this location could involve widening the intersection approaches to provided auxiliary lanes, installing a traffic signal or constructing a roundabout intersection.

Levels of Service at other intersections satisfy the LOS C minimum. Current traffic volumes at the Hammatt Avenue / SR 99 SB ramps intersection satisfy peak hour traffic signal warrants in the p.m. peak hour.

TABLE 4
EXISTING PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control	AM Peak Hour		PM Peak Hour		Warrants Met?
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	
Hammatt Avenue / Campbell Blvd						
Eastbound approach	EB/WB Stop	14.5	B	14.2	B	No
Westbound approach		**68.0**	**F**	**44.7**	**E**	
Hammatt Avenue / SR 99 NB ramps	AWS	**36.5**	**E**	**26.1**	**D**	No
Hammatt Avenue / SR 99 SB ramps	AWS	23.3	C	19.8	C	No
Hammatt Avenue / F Street	AWS	14.1	B	14.2	B	No

LOS = Level of Service
Bold Values Exceed LOS C

Current Peak Hour Conditions - Freeway Ramp Junctions. Freeway ramp junction Level of Service is predicated on the hourly mainline traffic volume as well as the volume of traffic on specific ramps. As noted earlier, peak hour ramp volumes were identified from new traffic counts at ramp terminal intersections. Mainline weekday a.m. and p.m. peak hour directional volumes were identified from Caltrans PeMS count station data. For this analysis the mainline data was reviewed, and the 75th percentile volumes for Tuesday, Wednesday and Thursday counts completed in 2019 were used for ramp operational calculations.

Table 5 identifies current Levels of Service at freeway ramp junctions on SR 99 at Hammatt Avenue. As shown, all operate at LOS D or better during the a.m. and p.m. peak hour.

TABLE 5
EXISTING SR 99 RAMP JUNCTION LEVELS OF SERVICE

Location	Type	AM Peak Hour Existing			PM Peak Hour Existing		
		Ramp Volume (vph)	Density (pc/ln/mi)	LOS	Ramp Volume (vph)	Density (pc/ln/mi)	LOS
SB Hammatt Avenue off	Diverge	206	27.7	C	402	34.8	D
SB Hammatt Avenue on	Merge	296	25.8	C	290	30.4	D
NB Hammatt Avenue off	Diverge	307	31.3	D	289	29.2	D
NB Hammatt Avenue on	Merge	338	28.4	D	247	26.0	C

REGULATORY SETTING

The following information is a description of the existing regulatory setting conditions in the project study area. The study area includes streets and highways that are governed by various state and local jurisdictions. Each has adopted policies and minimum LOS standards for their facilities.

Caltrans

Caltrans is responsible for state highways, their ramps and for intersections where freeway ramps intersect the local street system. Caltrans generally strives to maintain LOS C on its facilities but recognizes that circumstances may limit their ability to do so. The following four documents are relevant.

Traffic Study Guidelines. The Caltrans document *Guide for the Preparation of Traffic Impact Studies* (California Department of Transportation 2002) identifies circumstances under which Caltrans determines that a traffic impact study would be required. The document also details information that is to be included in the study, analysis scenarios, and guidance on acceptable analysis methodologies.

State Route 99 Transportation Concept Report. The Caltrans document *Transportation Concept Report – State Route 99 - District 10* (California Department of Transportation 2017) (TCR) is applicable to the highway. A TCR is a long-term planning document that each Caltrans district prepares for every state highway or portion thereof in its jurisdiction. This document usually represents the first step in Caltrans' long-range corridor planning process. The purpose of a TCR is to determine how a highway will be developed and managed so that it delivers the targeted LOS and quality of operations that are feasible to attain over a 20-year period. These are indicated in the "route concept." In addition to the 20-year route concept level, the TCR includes an "ultimate concept," which is the ultimate goal for the route beyond the 20-year planning horizon. Ultimate concepts must be used cautiously, however, because unforeseen changes in land use and other variables make forecasting beyond 20 years difficult. TCRs do not necessarily consider the amount, type, and location of development within local agency General Plans. The SR 99 TCR identifies LOS C as the concept LOS in rural portions and LOS D as the concept LOS in urban portions. In the Livingston area, the portion of SR 99 southeast of Hammatt Avenue is considered rural, and the portion between the Winton Parkway and Hammatt Avenue is considered urban.

Traffic Operations Policy Directive 13-02. Caltrans policy regarding applicable traffic controls has recently been expanded based on Traffic Operations Policy Directive 13-02. This directive requires that Caltrans consider the relative merits of alternative traffic controls when it becomes necessary to stop traffic on state highways. Roundabouts are the default intersection control, but all-way stops and traffic signals are to be considered. The policy directive requires preparation of an *Intersection Control Evaluation (ICE)* to determine the preferred traffic control.

Caltrans Encroachment Permit. Improvements made to the state highway by private parties or local agencies are processed under a permit from Caltrans.

Merced County

General Plan. The *2030 Merced County General Plan* (County of Merced 2013) *Circulation Element* focuses on providing roadways for growing automobile demands and alternative modes of transportation. This requires improving those alternative modes through regional coordination, improved funding, better land use and design, and fair pricing. The overarching goal of the element seeks a balanced transportation system that moves people and goods in a safe and efficient way that minimizes environmental impacts, supports urban land uses, and serves rural needs. The following are two policies of the *General Plan Circulation Element* related to LOS standards:

> "Policy CIR-1.5: County Level of Service Standards (RDR)
> Implement a Countywide roadway system that achieves the following level-of-service (LOS) standards during peak traffic periods:
>
> "a) For roadways located within rural areas: LOS "C" or better.
>
> "b) For roadways located outside Urban Communities that serve as connectors between Urban Communities: LOS of "D" or better.
>
> "c) For roadways located within Urban Communities: LOS of "D" or better.
>
> "Policy CIR-1.6: Level of Service "E" Exception (RDR)
> Allow a level of service "E" or worse only on a minor component of the circulation system (such as a left turn movement from a local roadway) if the major component of the circulation system (such as a through movement on a collector or arterial roadway) would be significantly compromised in the process of improving the level of service of the minor component."

Merced County has jurisdiction of non-state roadways outside of the Livingston city limits.

City of Livingston

General Plan. The City of Livingston is responsible for streets within the city limits. The City of Livingston *Circulation Element* of the *General Plan – Livingston, California* (Livingston 1999) designates LOS C as their minimum standard:

> "The City designates Service Level 'C' as defined in the Highway Capacity Manual (published by the Transportation Research Board of the National Research Council) as the minimum desirable service level at which arterial streets and collector streets should operate. All new facilities in these categories shall be

designed to operate at this level or better for a period of at least 20 years following their construction."

Merced County Association of Governments

2018 Regional Transportation Plan / Sustainable Communities Strategy (RTP/STS). The Merced County Association of Governments (MCAG) has prepared the 2018 update to the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to address current regional goals and priorities. Ultimately this plan seeks to ensure that the Merced County transportation system will continue to operate efficiently over the next 25 years with sufficient capacity to meet demand and that mobility options are available for all of Merced County's residents. The RTP focuses on our regional transportation infrastructure needs, while the SCS addresses planned growth patterns that have been defined by local cities and the County. Linking the RTP and SCS binds these two processes together, ensuring that planned additions and modifications to the regional transportation network are addressing both existing and future needs.

Table 10.2 – 2018 RTP/STS Tier I Projects List identifies anticipated improvement projects anticipated at various locations in the County, including the Livingston area projects noted in Table 6. Of these projects, completion of SR 99 to 6 lanes through Livingston and possible improvements to the SR 99 / Hammatt Avenue interchange are in the immediate environs of the proposed project.

Regional Transportation Impact Fee. The Merced County Association of Governments (MCAG) administers the Regional Transportation Impact Fee (RTIF) program. Many local governments have or are considering development fee programs to mitigate traffic impacts within their jurisdiction. However, transportation impacts beyond their jurisdictions are not included. The Regional Transportation Impact Fee Program provides additional revenue to mitigate transportation impacts on the regional road network. (http://www.mcagov.org/150/Regional-Transportation-Impact-Fee) Currently Livingston and other Merced County cities do not collect this fee.

TABLE 6 2018 RTP/STS TIER I PROJECTS LIST – LIVINGSTON AREA						
Jurisdiction	**Project**	**Limits / Description**	**Type**	**Year**	**Cost (mil's)**	**Funding Sources**
Caltrans	SR 99, Livingston Widening	Widen freeway to 6 lanes from Hammatt Avenue to Stanislaus County line	Road Capacity	2024	$75.0	STIP, TCEP (SB1)
Livingston	Livingston Transit Center	Main Street along UP ROW	Transit	2027	$2.9	Measure V
	B Street Corridor Improvements	Winton Parkway to 1st Street	Complete Streets	2022	$3.9	Measure V
	Main Street Corridor Improvements	Swan St to Peach Ave	Complete Streets	2022	$13.0	Measure V
	SR 99 / Winton Pkwy on-ramp widening	SR 99 and Joseph Gallo Dr	Road Op's / Safety	2019	1.24	Measure V
	Roundabout @ Main St & B St		Road Op's / Safety	2018	$.554	FTIP
	Winton Pkwy Extension	B Street to F Street	Road Capacity	2025	$5.0	Measure V/SB-1/ STIP/local
	Roadway Rehabilitation	Various Locations	Road Maintenance	2022	$4.4	Measure V/SB-1/ STIP/local
	Infill Sidewalk Program	Various locations	Active (bike/ped)	2023	$2.6	Measure V/SB-1/ STIP/local
	Widen / reconstruct Hammatt Ave and Winton Pkwy interchanges and Main Street crossing with SR 99. Winton Pkwy is the top priority followed by Hammatt Ave		Road Op's / Safety	2020	$15.0	Measure V/SB-1/ STIP/local
	Roundabout @ Briarwood & B St		Road Op's / Safety	2022	$3.5	Measure V/SB-1/ STIP/local

PROJECT CHARACTERISTICS

Project Description

The project includes two phases. The first phase is a truck stop with separate areas for automobile and truck fueling, along with a tire shop. The second phase involves construction of three free standing quick-serve restaurants. The project is divided into western and eastern halves. The western half focusses on customers arriving by automobile and has access to Campbell Blvd at locations roughly 300 and 550 feet east of Hammatt Avenue. The later driveway is opposite the existing Industrial Drive intersection. The eastern area includes truck fueling and truck services, and there is no vehicular connection between the western and eastern two areas. The truck area has three driveways located roughly 780, 1,240 and 1,760 feet east of Hammatt Avenue.

Trip Generation

Approach. The number of vehicle trips that are expected to be generated by development of the project has been estimated based on trip generation rates that are applicable to the nature and size of project land uses. Specific trip generation rates published by the Institute of Transportation Engineers (ITE) were used when available for known uses

Trip Generation Rates. The number of vehicle trips that are expected to be generated by development of the truck stop and accompanying uses have been estimated based on trip generation rates that are applicable to the nature and size of project land uses. Trip generation rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition* have been employed where available. ITE trip generation rates that may be applicable are presented in Table 7. As indicated, rates are available for Truck Stops based on the building floor area in 1,000 sf (ksf).

TABLE 7
ITE TRIP GENERATION RATES

Land Use	ITE Code	Unit	Trips per Unit						
				AM Peak Hour			PM Peak Hour		
			Daily	In	Out	Total	In	Out	Total
Tire Store	848	ksf	28.52	64%	36%	2.72	43%	57%	3.98
Fast Food Restaurant With Drive thru	934	ksf	470.95	51%	49%	40.19	52%	48%	32.67
Truck Stop	950	ksf	455.53	50%	50%	26.49	53%	47%	22.73

Trip Generation Forecasts. Identified trips generation rates were applied to the project.

Gross Trip Generation. Resulting gross trip generation estimates for the identified uses in the Moonglo project are presented in Tables 8 and 9. As shown, under Phase 1 the truck stop

would generate 5,996 gross daily trips with 353 trips in the a.m. and 310 trips in the p.m. peak hour. At buildout the total gross trip generation is 9,858 daily trips, with 682 trips the a.m. peak hour and 578 trips in the p.m. peak hour.

Internal Trips. A share of the trips attracted to each use are likely to be made by persons who also elect to visit another part of the project as part of the same stop. Initially, 50% of the trips generated by the tire shops have been assumed to be made by truck stop customers. At buildout it has been assumed that 15% of the trips generated by fast food restaurant customers would be made by persons who would also visit the truck stop, primarily for fuel. While internal trips are limited under Phase 1, after accounting for these internal trips, at buildout the project is expected to generate 8,580 external daily trips, with 572 external trips in the a.m. peak hour and 482 external trips in the p.m. peak hour.

TABLE 8
PROJECT PHASE 1 TRIP GENERATION FORECASTS

Land Use	Unit	Quantity	Trips						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Proposed Project Phase 1									
Tire Store	ksf	4.2	120	7	4	11	7	10	17
Internal Trips to Truck Stop		*50%*	*<60>*	*<3>*	*<2>*	*<5>*	*<3>*	*<5>*	*<8>*
External Trips			60	4	2	6	4	5	9
Pass-by Trips		5%	<3>	<0>	<0>	<0>	<0>	<0>	<0>
Truck Stop – Auto's (60%)	ksf	12.9	3,526	103	103	206	93	83	176
Internal to Tire Shop			*<20>*	*<0>*	*<0>*	*<0>*	*<0>*	*<0>*	*<0>*
External			3,506	103	103	202	93	83	176
Pass-by Trips		25%	<877>	<26>	<26>	<52>	<22>	<22>	<44>
Truck Stop – Trucks (40%)	ksf	12.9	2,350	68	68	136	62	55	117
Internal to Tire Shop			*<40>*	*<2>*	*<3>*	*<5>*	*<5>*	*<3>*	*<8>*
External			2,310	66	65	131	57	52	109
Pass-by		5%	<116>	<3>	<3>	<6>	<3>	<3>	<6>
Phase 1 – Gross Total			5,996	178	175	353	162	148	310
Internal			<120>	<5>	<5>	<10>	<8>	<8>	<16>
External			5,876	173	170	343	154	140	294
Pass-by			<996>	<29>	<29>	<58>	<25>	<25>	<50>
Primary & Link Diverted Trips			**4,880**	**144**	**141**	**285**	**129**	**125**	**244**

ksf = 1,000 square feet

TABLE 9
PROJECT BUILD OUT TRIP GENERATION FORECASTS

Land Use	Unit	Quantity	Trips						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Project Build Out									
Tire Store	ksf	4.2	120	7	4	11	7	10	17
Internal Trips to Truck Stop		*50%*	*<60>*	*<3>*	*<2>*	*<5>*	*<3>*	*<5>*	*<8>*
External Trips			60	4	2	6	4	5	9
Pass-by Trips		*5%*	*<3>*	*<0>*	*<0>*	*<0>*	*<0>*	*<0>*	*<0>*
Fast Food Restaurant	ksf	8.2	3,862	168	162	330	139	129	268
Internal Trip to Truck Stop		*15%*	*<579>*	*<25>*	*<25>*	*<50>*	*<21>*	*<19>*	*<40>*
External Trips			3,483	143	137	280	118	110	228
Pass-by Trips		25%	<871>	<35>	<35>	<70>	<29>	<28>	<57>
Truck Stop – Auto's (60%)	ksf	12.9	3,526	102	103	205	93	83	176
Internal to Tire Shop and Restaurants			*<347>*	*<16>*	*<17>*	*<33>*	*<14>*	*<14>*	*<28>*
External Trips			3,179	86	86	172	79	69	148
Pass-by Trips		*25%*	*<795>*	*<21>*	*<21>*	*<42>*	*<18>*	*<18>*	*<36>*
Truck Stop – Trucks (40%)	ksf	12.9	2,350	68	68	136	62	55	117
Internal to Tire Shop and Restaurants			*<292>*	*<11>*	*<11>*	*<22>*	*<10>*	*<10>*	*<20>*
External Trips			2,058	57	57	114	52	45	97
Pass-by Trips		5%	<103>	<3>	<3>	<6>	<2>	<2>	<4>
Project Build Out - Gross Total			9,858	345	337	682	301	277	578
Internal Trips			*<1,278>*	*<55>*	*<55>*	*<110>*	*<48>*	*<48>*	*<96>*
External Trips			8,580	290	282	572	253	229	482
Pass-by Trips			<1,772>	<59>	<59>	<118>	<49>	<48>	<97>
Primary & Link Diverted Trips			**6,808**	**231**	**223**	**454**	**204**	**181**	**385**

ksf = 1,000 square feet

Trip Distribution

The geographic distribution of project-related trips used in this analysis is based on consideration of the nature of the proposed uses and their likely trade areas.

As a regional travel center, many of the trips associated with the truck stop and adjoining restaurants will be drawn from the stream of traffic passing the site on SR 99. Truck traffic is expected to be drawn primarily from vehicles that are already part of the 9,500± trucks with 4 axles or more that are on this section of SR 99 daily. Truck trips could also be drawn from the traffic on Campbell Blvd and Hammatt Avenue that are traveling between businesses in Livingston and the freeway.

Due to its location, automobile trips would also be expected to be drawn from existing traffic on the state highway, but a greater share of the project's automobile traffic may originate elsewhere in Livingston.

Pass-by Trips. Typically, the external trips associated with retail-service uses are divided between ***"primary", "diverted linked"*** and **"pass-by" trips.** Primary or "new" trips represent those trips specifically made for the purpose of visiting the site. These trips would affect the project access as well as the local and regional circulation system. Pass-by trips are those made as part of another trip by patrons who simply turn into the project. Pass-by trips would not affect the regional circulation system. Link diverted trips are those that already occur on part of the regional circulation system but may use local streets to reach the project. In this case, trips drawn from existing traffic on SR 99 to the project are diverted linked trips.

Pass-by trips would be drawn from traffic already at the Hammatt Avenue / Campbell Blvd intersection. Today roughly 1,100 vehicles pass thru the intersection during the a.m. and p.m. peak hours, although only 12% to 15% of that traffic continue on Campbell Blvd along the project site. ITE data indicates that roughly half of the trips attracted to fast food restaurants and 56-62% of the trips to gasoline stations are "pass-by" trips. In this case those general percentages appear to be high relative to the current peak traffic volume at the Hammatt Avenue / Campbell Blvd intersection, and alternative assumptions have been made.

For this analysis it has been assumed that 5% of the external truck trips will be "pass-by" and the remainder will be primary or link diverted trips. Automobile trips have been assumed to be 25% pass-by from the Hammatt Avenue / Campbell Blvd intersection and 75% primary or link-diverted trips. After accounting for pass-by trips, phase 1 of the project is projected to generate 6,808 daily primary-link diverted trips, with 454 trips in the a.m. peak hour and 385 trips in the pm peak hour.

Link diverted trips are primarily traffic on SR 99 that would pull off the freeway to visit the project and then return.

Primary Trip / Link Diverted Trip Distribution. Table 10 presents the assumptions made regarding the directional distribution of automobile and truck primary and link diverted trips generated by the project. As noted, this analysis conservatively assumes that 65% of the external truck trips and 45% of the external automobile trips drawn to the site will come from traffic already on SR 99.

TABLE 10 PRIMARY TRIP DISTRIBUTION					
		Percentage			
		Trucks		Automobiles	
Direction	Route	Primary	Link Diverted	Primary	Link Diverted
North	Hammatt Ave beyond Campbell Blvd	5%	0%	10%	0%
West	State Route 99 beyond Hammatt Ave	10%	30%	10%	20%
	Campbell Blvd west of Hammatt Ave	5%	0%	5%	0%
	F Street west of Hammatt Ave	0%	0%	5%	0%
South	Hammatt Ave south of F Street	5%	0%	10%	0%
East	State Route 99 beyond Hammatt Ave	10%	30%	15%	20%
	Campbell Blvd beyond project	0%	5%	0%	5%
Total		**35%**	**65%**	**55%**	**45%**
Highlighted trips are "Pass-by" trips					

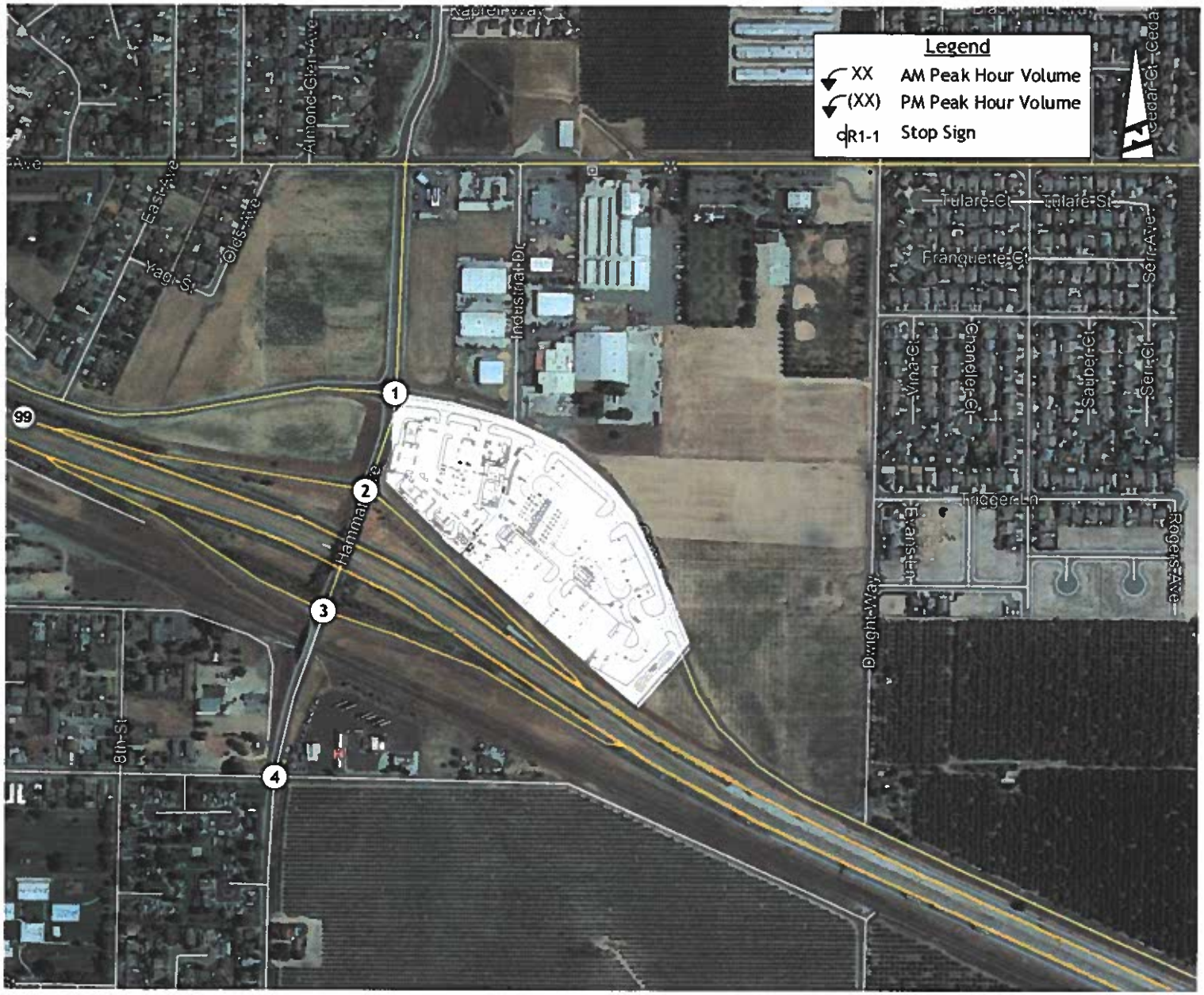
Trip Assignment. The trips generated by Phase 1 of the project were assigned to the study area street system based on the location of site access and the regional distribution patterns noted previously. Figure 3 presents the resulting project trip assignment for Phase 1. Figure 4 presents the trip assignment for project build out.

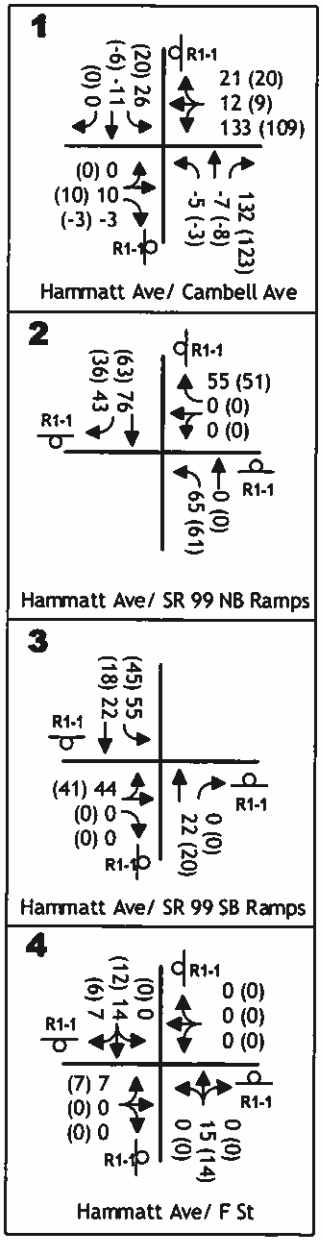
Other Transportation Modes

While the project primarily caters to customers who will arrive by automobile or truck, some trips will be made by other modes.

Pedestrians / Bicyclists. It is likely that some project employees and customers will arrive on foot or by bicycle. This would be the case if employees living in residential areas to the northwest or south walk or ride to the site. Similarly, on-site food services may attract patrons from the same areas, or employees of business on Industrial Drive may walk to the site.

Transit Users. The nature of the project's uses limits its potential for transit use, as few customers would be likely to use that mode. However, some employees may take advantage of The Bus existing routes through Livingston and walk from the Walnut Avenue / Franci Street stop.





PROJECT (PHASE I) ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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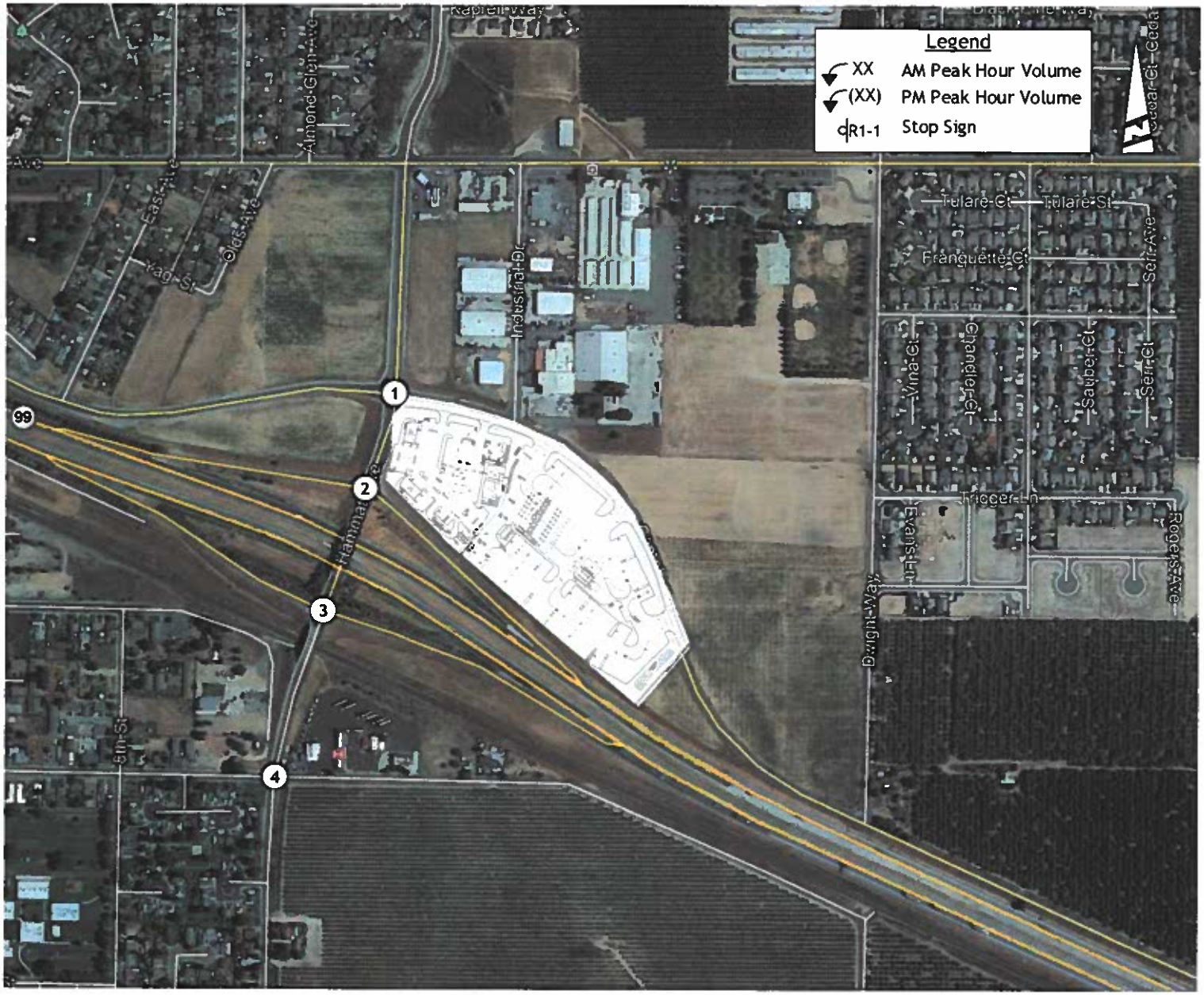
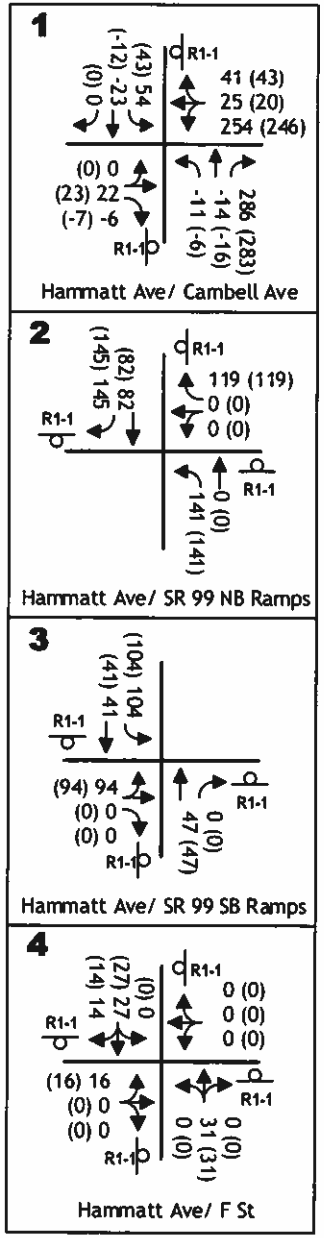
3620-16 RA 7/24/2020

figure 3





PROJECT (BUILDOUT) ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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figure 4

PROJECT IMPACTS

Traffic Operations Analysis

Traffic volumes associated with the operation of the Moonglo Truck Stop project's Phase 1 and at Build Out were superimposed onto current background traffic to create the Existing plus Project condition assuming development of the portion of the project. Figures 5 and 6 present Existing Plus Project a.m. and p.m. peak hour traffic volumes.

Peak Hour Intersection Level of Service. Resulting Existing Plus Project peak hour LOS are presented in Table 11. In each case the existing truck percentage on each approach has been updated to reflect the contribution of trucks associated with the proposed project, and new truck percentages were input to the LOS calculations. The LOS calculation worksheets for Existing Plus Project conditions are presented in the Appendix.

Existing Plus Project Phase 1. As shown in Table 11, the addition of project generated traffic results in longer delays on the westbound approach at the ***Hammatt Avenue / Campbell Blvd intersection*** that are indicative of LOS F in both the a.m. and the p.m. peak hour. Measures to improve the Level of Service at this intersection were reviewed. Installing an all-way stop was considered but would still produce an overall Level of Service of LOS F at the intersection. A traffic signal would be needed, or a roundabout could be installed. More information regarding recommended improvements is included under "Mitigation Measures".

The ***Hammatt Avenue / SR 99 NB ramps intersection*** is projected to operate at LOS F in the a.m. and p.m. peak hour. A traffic signal would be needed, or a roundabout could be installed. More information regarding recommended improvements is included under "Mitigation Measures".

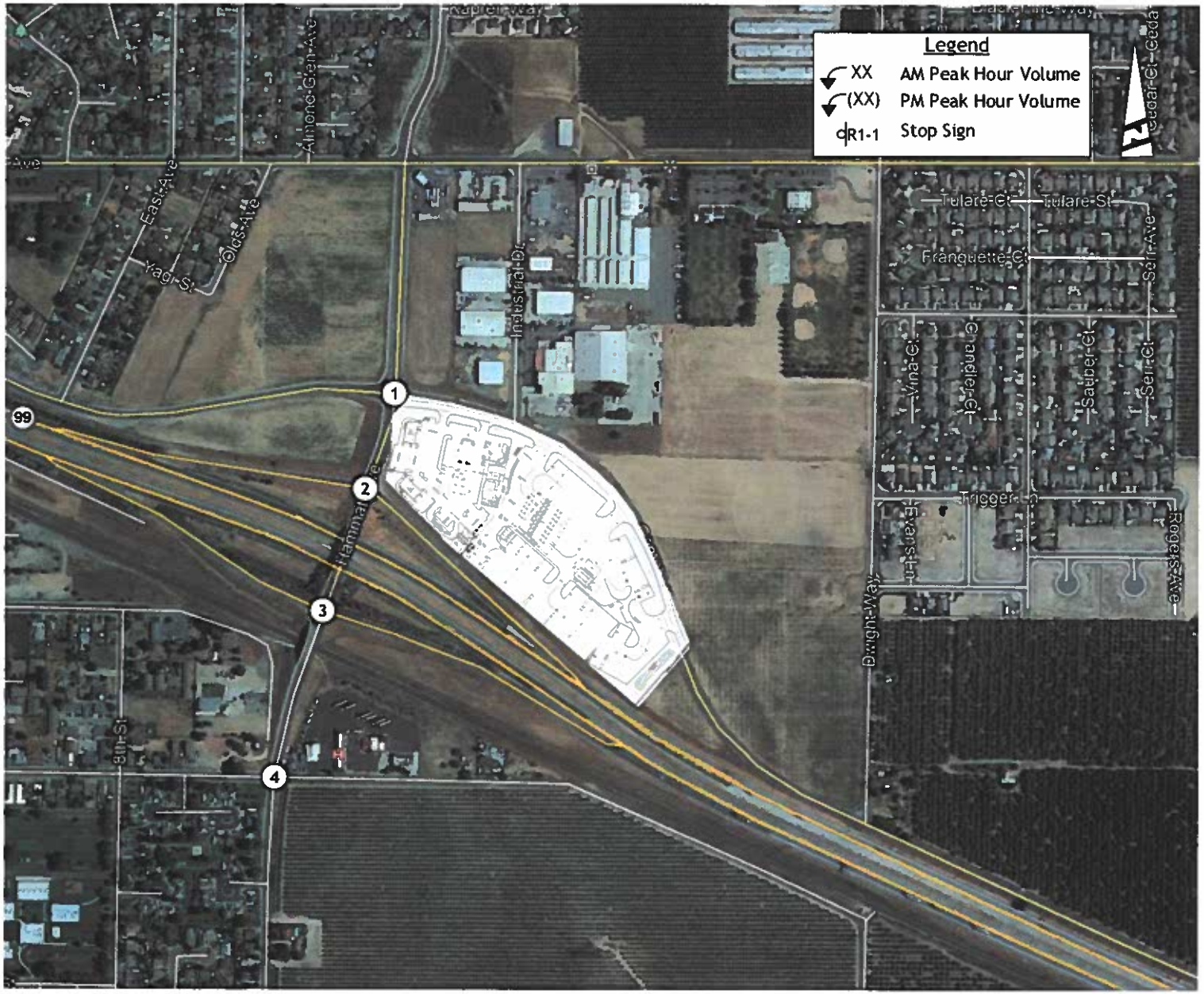
The ***Hammatt Avenue / SR 99 SB ramps intersection*** is projected to operate at LOS D in the a.m. peak hour. To deliver LOS C a traffic signal would be needed, or a roundabout could be installed. More information regarding recommended improvements is included under "Mitigation Measures".

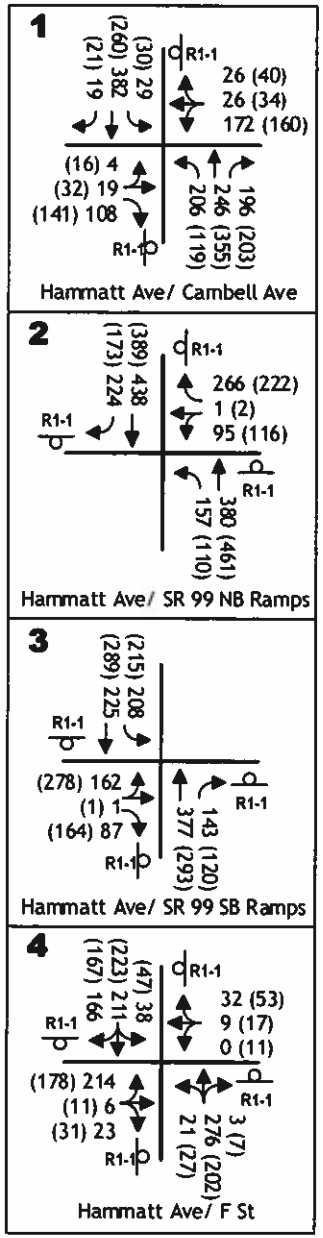
Conditions at the F Street intersection will satisfy the City's LOS C minimum standard.

Existing Plus Project Build Out. As shown in Table 11, the same three intersections are projected to operate with Levels of Service that exceed the City's LOS C minimum, but the SR 99 SB ramps intersection is projected to operate at LOS E in the a.m. peak hour and LOS D in the a.m. peak hour. Information describing needed improvements is described under "Mitigation Measures".

Traffic Signal Warrants. Existing Plus Project traffic volumes have been compared to peak hour traffic signal warrant requirements. As was noted in Table 12, the two SR 99 ramp intersections would continue to carry volumes that satisfy peak hour warrants. With the project the Hammatt Avenue / Campbell Blvd intersection would also carry volumes that would satisfy peak hour warrant requirements.

Existing Plus Project Peak Hour Conditions- Freeway Ramps. Table 13 identifies current and Existing Plus Project Build Out Levels of Service and peak hour volumes on the ramps at the SR 99 / Hammatt Avenue interchange. As shown, with one exception, with project build out all ramps operate at LOS C or D during the a.m. and p.m. peak hour and meet Caltrans minimum LOS D standard for SR 99. The exception is the SB off ramp, which is projected to operate at LOS E in the p.m. peak hour. Because conditions at this location are barely into LOS E (i.e., 35.0 pc/ln/mi) at buildout, conditions with Phase 1 would remain at LOS D. While LOS E exceeds the LOS D goal, the 2018 RTP indicates that SR 99 is expected to be widened to 6-lanes in the near future (refer to Table 6). With this improvement this ramp diverge will satisfy the minimum LOS D goal.





EXISTING PLUS PROJECT (PHASE I) TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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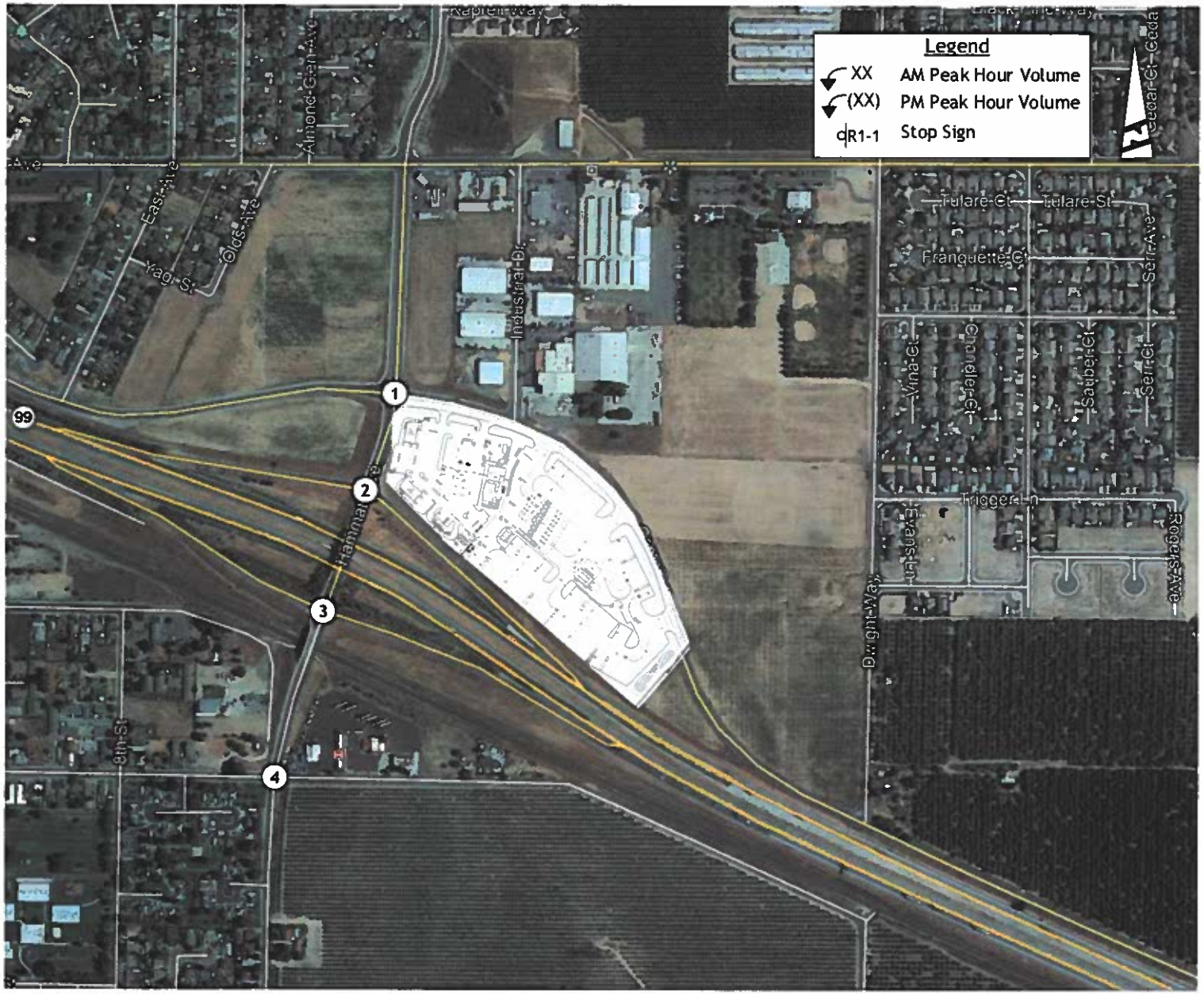
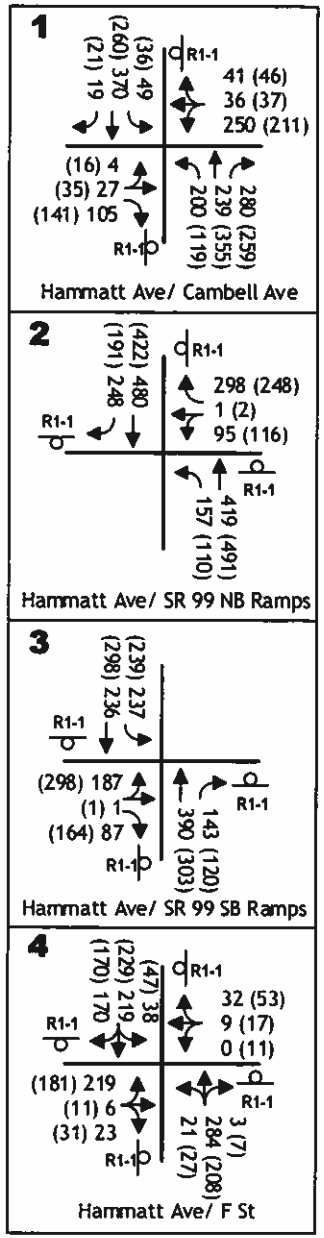
3620-16 RA 7/24/2020

figure 5





EXISTING PLUS PROJECT (BUILDOUT) TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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3620-16 RA 7/24/2020

figure 6

TABLE 11
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control	AM Peak Hour						PM Peak Hour					
		Existing		Existing Plus Project				Existing		Existing Plus Project			
				Phase 1		Build Out				Phase 1		Build Out	
		Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
Hammatt Ave / Campbell Blvd	EB/WB Stop												
Eastbound approach		14.5	B	19.0	C	**25.4**	**D**	14.2	B	19.3	C	22.0	C
Westbound approach		**68.0**	**F**	**>300**	**F**	**>300**	**F**	**44.7**	**E**	**>300**	**F**	**>300**	**F**
Hammatt Ave / SR 99 NB ramps	AWS	**36.5**	**E**	**88.5**	**F**	**125.7**	**F**	**26.1**	**D**	**60.0**	**F**	**86.4**	**F**
Hammatt Ave / SR 99 SB ramps	AWS	23.3	C	**29.7**	**D**	**35.7**	**E**	19.8	C	24.8	C	**28.4**	**D**
Hammatt Ave / F Street	AWS	14.1	B	19.7	C	21.7	C	14.2	B	19.3	C	20.3	C

LOS = Level of Service.
Bold Values Exceed LOS C

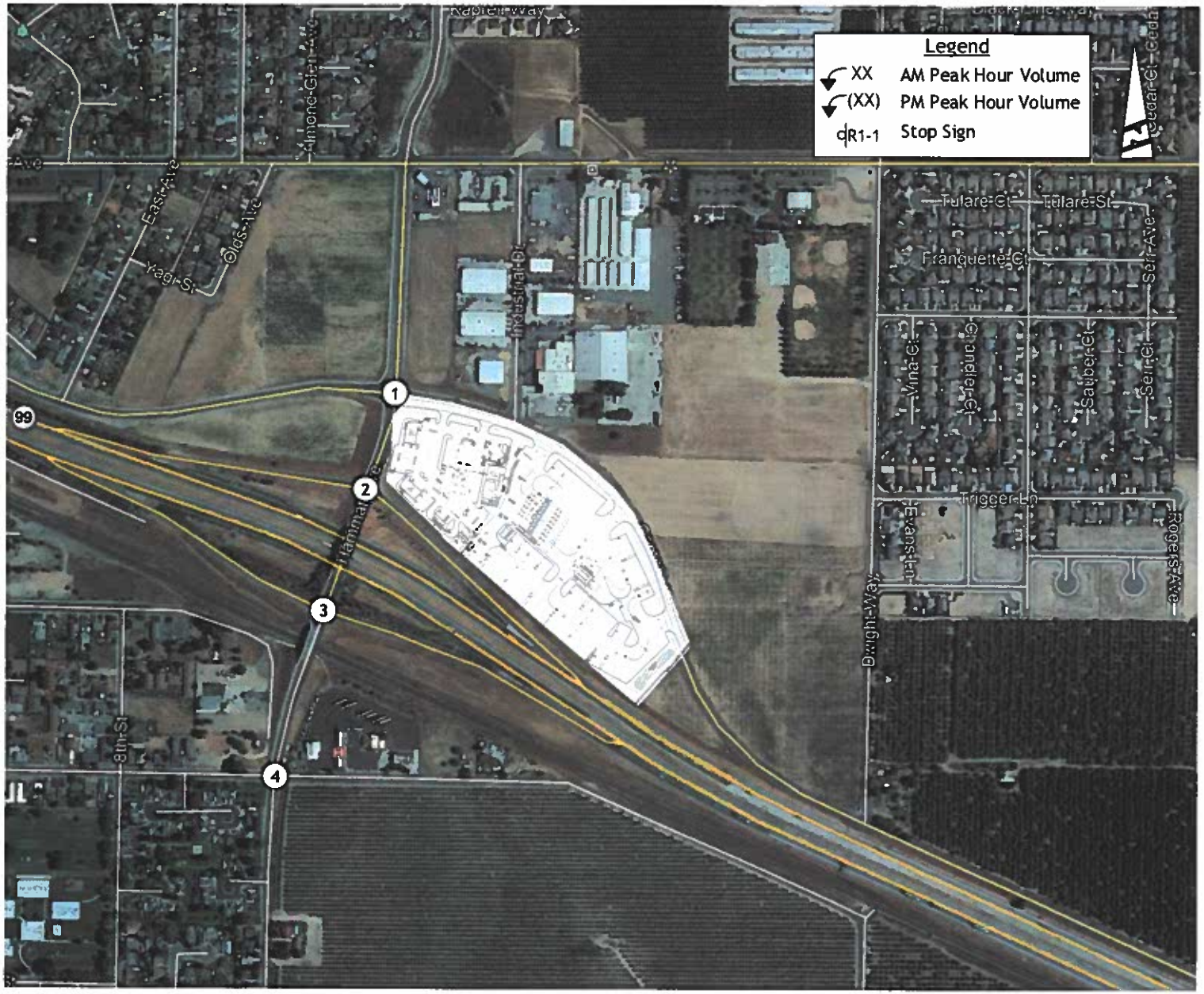
TABLE 12
EXISTING PLUS PROJECT PEAK HOUR TRAFFIC SIGNAL WARRANTS

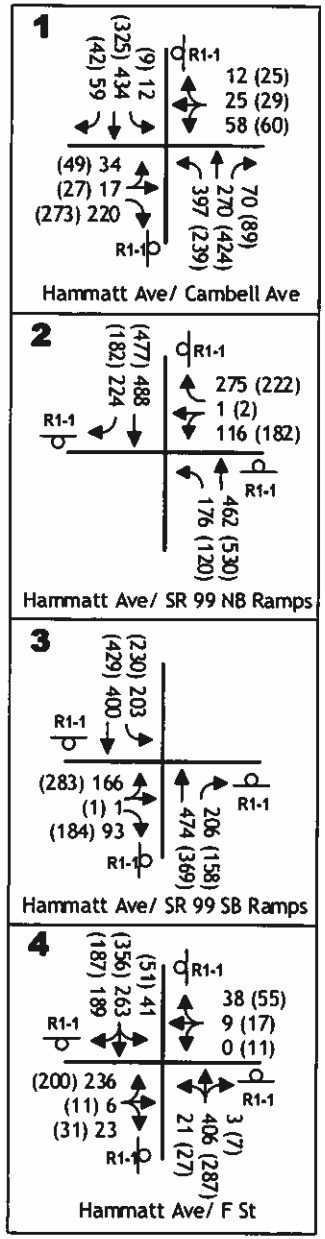
Intersection	Control	AM Peak Hour						PM Peak Hour					
		Existing		Existing Plus Project				Existing		Existing Plus Project			
				Phase 1		Build Out				Phase 1		Build Out	
		Major / Minor	Met?	Major / Minor	Met	Major / Minor	Met?	Major / Minor	Met?	Major / Minor	Met?	Major / Minor	Met?
Hammatt Ave / Campbell Blvd	EB/WB Stop	943 / 124	No	1,078 / 251	Yes	1,157 / 327	Yes	862 / 182	No	988 / 234	No	1,050 / 294	Yes
Hammatt Ave / SR 99 NB ramps	AWS	1,015 / 307	Yes	1,199 / 362	Yes	1,304 / 394	Yes	978 / 289	No	1,133 / 340	Yes	1,214 / 366	Yes
Hammatt Ave / SR 99 SB ramps	AWS	954 / 206	No	1,053 / 250	No	1,106 / 275	Yes	834 / 402	Yes	917 / 443	Yes	960 / 463	Yes
Hammatt Ave / F Street	AWS	679 / 236	No	715 / 243	No	735 / 248	No	641 / 213	No	673 / 220	No	688 / 223	No

TABLE 13
EXISTING PLUS MOONGLO TRUCK STOP PROJECT BUILD OUT
RAMP JUNCTION LEVELS OF SERVICE

Location	Type	AM Peak Hour						PM Peak Hour					
		Existing			Existing Plus Project Build Out			Existing			Existing Plus Project Build Out		
		Ramp Vol (vph)	Density (pc/ln/mi)	LOS	Ramp Vol (vph)	Density (pc/ln/mi)	LOS	Ramp Vol (vph)	Density (pc/ln/mi)	LOS	Ramp Vol (vph)	Density (pc/ln/mi)	LOS
SB Hammatt Ave off	Diverge	206	27.7	C	275	28.0	C	402	34.8	D	463	**35.0**	**D-E[1]**
SB Hammatt Ave on	Merge	296	25.8	C	380	26.1	C	290	30.4	D	359	30.6	D
NB Hammatt Ave off	Diverge	307	31.3	D	394	31.6	D	289	29.2	D	366	29.5	D
NB Hammatt Ave on	Merge	338	28.4	D	424	28.6	D	247	26.0	C	301	26.0	C

Bold values exceed LOS D.
[1]with 6 lane SR 99 LOS C 25.8 pc/mi/ln





CUMULATIVE WITHOUT PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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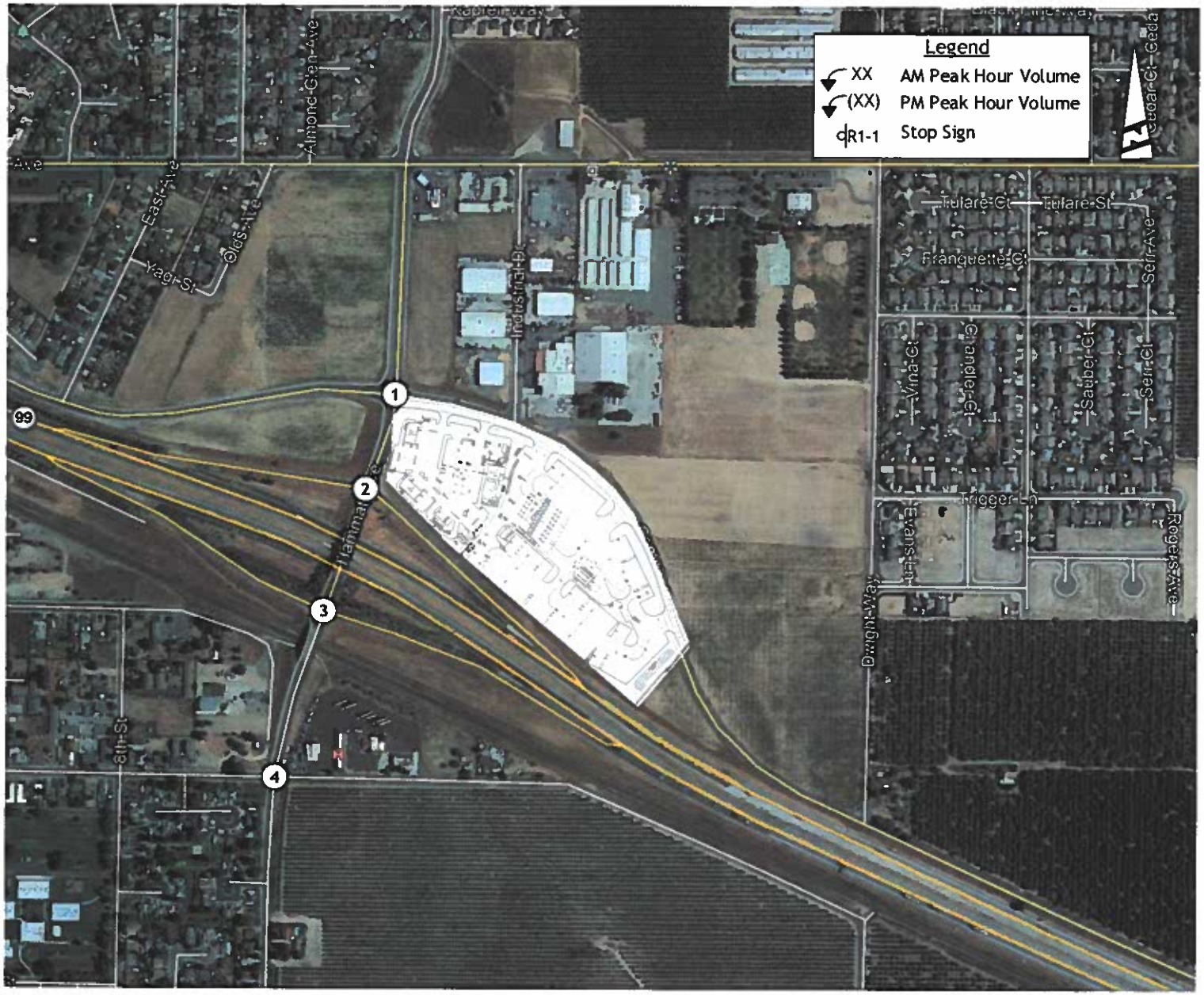
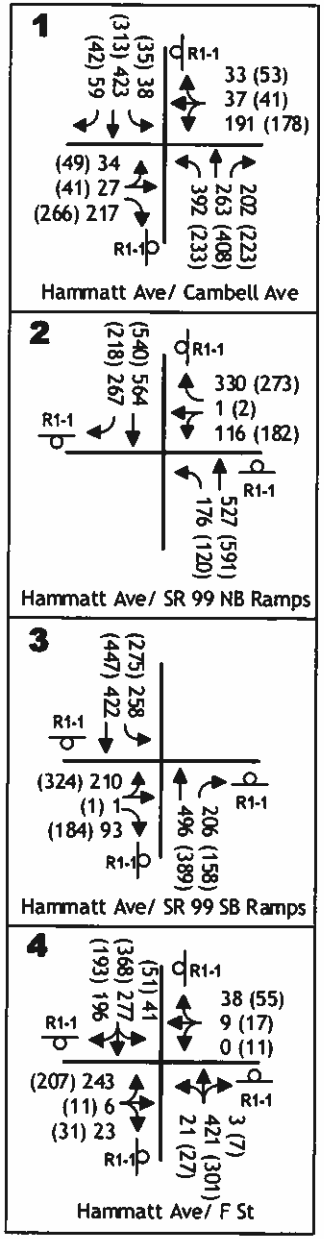
figure 7





CUMULATIVE PLUS PROJECT (PHASE I)
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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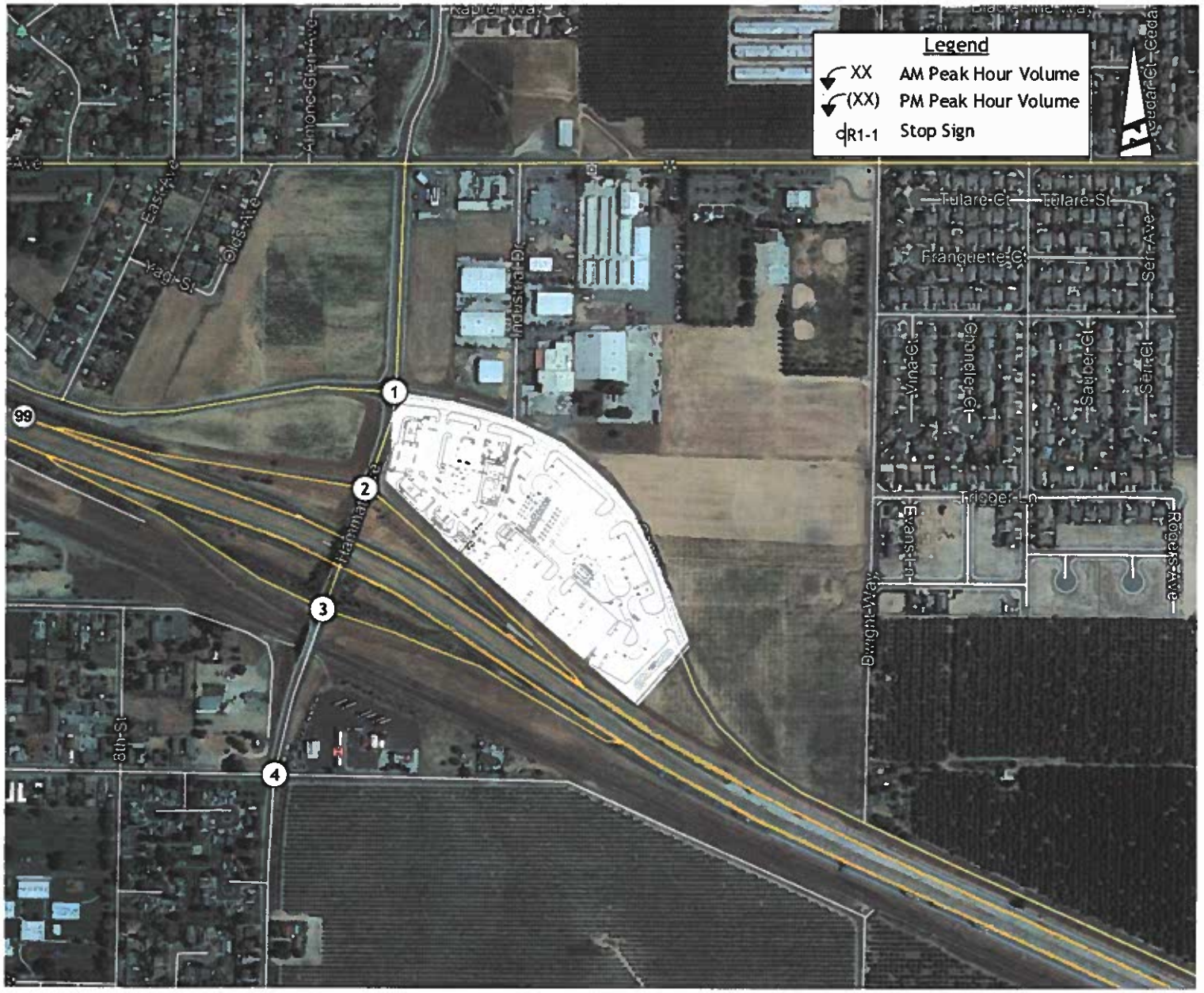
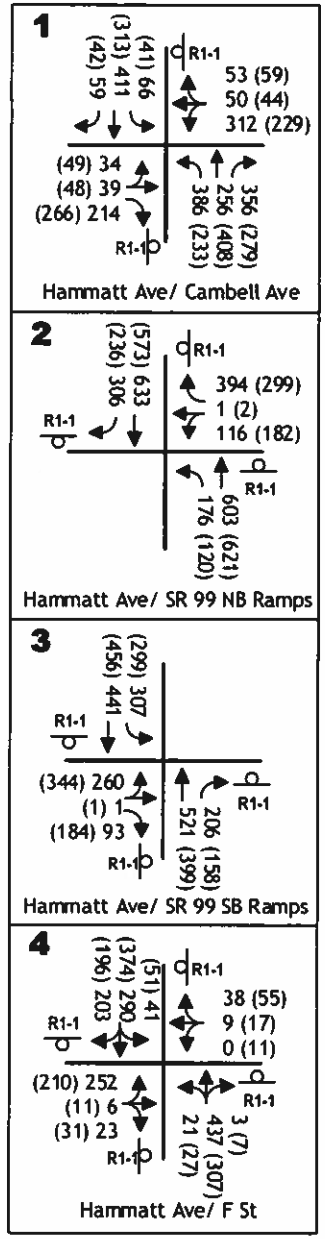
figure 8





CUMULATIVE PLUS PROJECT (BUILDOUT)
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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3620-16 RA 10/27/2020

figure 9

Traffic Safety Impacts / Access

95th Percentile Queues. Table 14 presents the volume of traffic in lanes at all-way stop controlled intersections as well as the 95th percentile queues calculated for existing conditions and with buildout of the project. Queue lengths that exceed available storage in turn lanes or reach adjoining intersections could create an appreciable safety issue. In this case, while existing 95th% queues can be accommodated by the existing circulation system, with buildout of the Moonglo project the queue of southbound traffic extending back from the Hammatt Avenue / SR 99 NB ramps intersection would reach the Campbell Blvd intersection in both the a.m. and p.m. peak hour. This would be a safety issue to be addressed by increasing intersection capacity in a manner that is consistent with the improvements needed to address Level of Service.

Truck Turning Requirements. Turning requirements are important with regards to legal truck circulation. The project will attract full size trucks already permitted on SR 99 (i.e., STAA) turning into and out of the site via the Hammatt Avenue / Campbell Blvd intersection and at the SR 99 ramps intersections.

Review of the current layout of each intersection indicates that STAA vehicles can travel legally from the SR 99 interchange to the project site (see plot in appendix). This issue will need to be confirmed as improvement plans are developed, and the City may need to make a formal application for STAA designation on the affected portions of Hammatt Avenue and Campbell Blvd.

Impacts to Alternative Transportation Modes

The project may result in pedestrians and bicyclists who would travel between the site and the balance of the Livingston area. While the number of pedestrians is not likely to be appreciable, development of a safe path of travel from the site westerly is necessary. As noted in the discussion of existing conditions, a sidewalk exists on the west side of Hammatt Avenue through the study area. While the project will complete standard frontage improvements that include sidewalks, a safe crossing across Hammatt Avenue to the west sidewalks needs to be developed with the project.

TABLE 14
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION QUEUES

Intersection	Lane	Storage (feet)	AM Peak Hour						PM Peak Hour					
			Existing		Existing Plus Project				Existing		Existing Plus Project			
					Phase 1		Build Out				Phase 1		Build Out	
			Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)
Hammatt Ave / Campbell Blvd	WB	n.a	58	65	224	580	327	945	76	60	23	500	294	725
Hammatt Ave / SR 99 NB ramps	Off ramp	460	307	55	362	80	394	105	289	40	340	60	366	75
	NB left	150	157	40	157	40	157	40	110	<25	110	<25	110	<25
	NB through	425	315	105	380	175	419	235	400	175	461	290	491	355
	SB through	390	543	385	662	**765**	728	**1,000**	463	245	562	**500**	613	**660**
Hammatt Ave / SR 99 SB ramps	Off ramp	360	206	30	250	45	275	60	402	80	444	120	463	145
	SB left	125	153	35	208	55	237	75	170	45	215	70	239	85
	SB through	425	203	85	225	55	236	65	271	85	289	105	298	120
	NB through	725	498	255	530	320	533	370	393	175	413	220	423	245
Hammatt Ave / F Street	SB through	710	394	105	415	175	427	195	274	120	437	185	446	200
	NB through	n.a.	285	65	300	65	308	80	222	45	236	50	242	55

Bold Values Exceed available storage

CUMULATIVE CONDITIONS ANALYSIS

This section of the transportation impact study describes traffic operating conditions under long-term future cumulative conditions. This scenario provides a description of background long-term future conditions and, in comparison with the Cumulative Plus Project condition, allows identification of project-related impacts under cumulative conditions.

Approach

Section 15355(a) of the *State CEQA Guidelines* states,

> "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."

Cumulative traffic volume forecasts were prepared using a method consistent with Section 15130(b)(1)(A) of the *State CEQA Guidelines*, which states cumulative impact may be assessed using "A list of past, present, and probable future projects producing related or cumulative impacts, . . ."

Approved Projects. The background projects assumed for this analysis were identified in consultation with City of Livingston staff and represent those development projects likely to add traffic the study area. The projects and traffic volumes presented in the *Final Initial Study/Mitigated Negative Declaration for the Hammatt Avenue ARCO Project - Livingston, CA* (BaseCamp Environmental, Inc. 2019) were assumed but were supplemented with additional future projects presented in the *Traffic Impact Analysis for the Sanghera Apartments (KDA 2020).* These projects are noted in Table 15.

TABLE 15 APPROVED PROJECTS LIST			
Project	**Location**	**Type**	**Quantity**
ARCO Traffic Study Projects			
Liberty Square – Manzanita Homes	East side of Hammatt Ave, north of Walnut	SFR	23 lots
Kishi – Manzanita Homes	Both sides of Hammatt Ave, north of Walnut	SFR	151 lots
Country Villas IV	S.E. corner of Trigger Lane & Walnut Avenue	SFR	66 lots
La Tierra (Rancho Estrada)	F St and Robin Street	SFR	41 lots
Mansionettes at Davante Villas	South of F Street , east of Bridgeport Village	SFR	21 lots
Sun Valley Estates	13311 W. Peach	SFR	111 lots
9-lot Gallo Commercial Center	NE of intersection of Robin Ave and B St	Comm	15.9 acres
Livingston Community Health	B Street east of Winton Pkwy	Office	12.28 ac
Motel 6 and Future Pad	Winton Pkwy & Joseph Gallo Dr	Comm	
Lupita's Auto Sales Building	F Street and Hammatt Ave	Comm	6.0 ksf
Moreno Duplexes	832 7th St	MFR	2 units
ARCO AM/PM	SW corner of Hammatt Ave & Campbell Blvd	comm	2.37 ac
Sanghera Apartments Traffic Study			
Restaurant	Walnut Avenue & Hammatt Avenue	comm	1.25 ksf
Industrial Laundry	Campbell Blvd & Industrial Drive	ind	83.5 ksf
Automobile Sales	Campbell Blvd / East Avenue	comm	1.26 ksf
Sanghera Apartments	Main Street & Peach Avenue	MFR	450 units

Traffic Volumes

Trip generation, trip distribution and traffic assignment for the future projects were developed using data from the two traffic studies. Application of the methods described above results in long-term future Cumulative No Project peak hour traffic volumes presented in Figure 7.

The Cumulative Plus Project conditions have also been developed. Resulting Cumulative plus Project Phase 1 and Build Out volumes are shown in Figures 8, and 9, respectively.

Future Traffic Operating Conditions

Potential Circulation System Improvements. While improvements to the SR 99 / Hammatt Avenue interchange are include in the list of 2018 RTP Tier 1 projects, the status of potential local improvements is uncertain. This analysis assumes that no improvements to intersections at the SR 99 / Hammatt Avenue interchange are made. Similarly, while the City of Livingston is pursuing a project to improve and signalize the Hammatt Avenue / Campbell Blvd intersection, because the design of that project has not been determined, this cumulative analysis conservatively assumes that current traffic controls remain. Alternatively, based on the information contained in the RTP, it is reasonable to assume that SR 99 will be widened to 6-lanes through Livingston under Cumulative conditions.

Intersection Levels of Service. Projected Levels of Service at study area intersections with and without the Moonglo Truck Stop project are noted in Table 16. As indicated if the other development projects proceed as assumed with no improvements then all of the un-signalized study intersections on Hammatt Avenue are projected to operate with Levels of Service which exceed the City's LOS C standard. The project's trips will exacerbate conditions that are forecast to be deficient.

Traffic signals with auxiliary lanes or roundabout intersections would be required to improve forecast traffic conditions with and without the project. The level of improvement required at each location to satisfy the City's minimum LOS C policy is noted in the following section (Mitigations).

Traffic Signal Warrants. If background development occurs as anticipated, the projected traffic volumes at each location will satisfy peak hour traffic signal warrants without the Moonglo Truck project, as noted in Table 17.

Cumulative Plus Project Peak Hour Conditions- Freeway Ramp Junctions. As indicated in the evaluation of ramp terminal LOS under Existing Plus Project conditions, the planned widening of SR 99 to 6 lanes will appreciably improve conditions at the SR 99 / Hammatt Avenue ramp junctions. No further analysis of ramp merge - diverge is necessary.

Intersection Queues. As indicated in Table 18, if background development occurs and no improvements are made, then the southbound through traffic queues on Hammatt Avenue at the SR 99 NB ramps will extend beyond the Campbell Blvd intersection. If the Moonglo project is built out, then this queue will be longer, and the northbound queue will extend through the SB ramps intersection to F Street if no improvements are made. The improvements needed to address LOS will also deal with this issue.

TABLE 16
CUMULATIVE PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control	AM Peak Hour						PM Peak Hour					
		Cumulative		Cumulative Plus Project				Cumulative		Cumulative Plus Project			
				Phase 1		Build Out				Phase 1		Build Out	
		Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
Hammatt Ave / Campbell Blvd	EB/WB Stop												
Eastbound approach		**118.7**	**F**	**>300**	**F**	**>300**	**F**	**57.5**	**F**	**137.3**	**F**	**193.8**	**F**
Westbound approach		**>300**	**F**	**>300**	**F**	**>300**	**F**	**>300**	**F**	**>300**	**F**	**>300**	**F**
Hammatt Ave / SR 99 NB ramps	AWS	**118.5**	**F**	**188.0**	**F**	**236.2**	**F**	**109.4**	**F**	**171.7**	**F**	**205.0**	**F**
Hammatt Ave / SR 99 SB ramps	AWS	**87.3**	**F**	**103.1**	**F**	**114.3**	**F**	**56.6**	**F**	**69.9**	**F**	**78.2**	**F**
Hammatt Ave / F Street	AWS	**43.3**	**E**	**54.8**	**F**	**61.0**	**F**	**60.5**	**F**	**70.6**	**F**	**74.2**	**F**

LOS = Level of Service.
Bold Values Exceed LOS C

TABLE 17
CUMULATIVE PLUS PROJECT PEAK HOUR TRAFFIC SIGNAL WARRANTS

Intersection	Control	AM Peak Hour Volume						PM Peak Hour Volume					
		Cumulative		Cumulative Plus Project				Cumulative		Cumulative Plus Project			
				Phase 1		Build Out				Phase 1		Build Out	
		Major Minor	Met?	Major Minor	Met	Major Minor	Met?	Major Minor	Met?	Major Minor	Met?	Major Minor	Met?
Hammatt Ave / Campbell Blvd	EB/WB	1,242	Yes	1,377	Yes	1,456	Yes	1,128	Yes	1,254	No	1,316	Yes
	Stop	271		278		364		349		356		359	
Hammatt Ave / SR 99 NB ramps	AWS	1,350	Yes	1,534	Yes	1,639	Yes	1,309	Yes	1,469	Yes	1,550	Yes
		392		447		479		406		457		483	
Hammatt Ave / SR 99 SB ramps	AWS	1,283	Yes	1,382	Yes	1,435	Yes	1,186	Yes	1,269	Yes	1,312	Yes
		260		304		329		468		509		529	
Hammatt Ave / F Street	AWS	923	Yes	959	Yes	979	Yes	915	Yes	947	No	962	Yes
		265		272		277		242		249		252	

TABLE 18
CUMULATIVE PLUS PROJECT PEAK HOUR INTERSECTION QUEUES

Intersection	Control	Storage (feet)	AM Peak Hour				PM Peak Hour			
			Cumulative		Cumulative Plus Project Buildout		Cumulative		Cumulative Plus Project Buildout	
			Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue	Volume (vph)	95th % Queue (feet)
Hammatt Ave / Campbell Blvd	WB	n.a.	85	320	364	n.a.			337	1,135
Hammatt Ave / SR 99 NB ramps	Off ramp	460	376	90	511	200	356	65	516	105
	NB left	150	156	40	176	50	108	<25	120	30
	NB through	425	430	240	603	**660**	511	380	660	**695**
	SB through	390	702	**900**	939	**1,680**	617	**660**	889	**1,240**
Hammatt Ave / SR 99 SB ramps	Off ramp	360	254	45	354	115	449	135	555	215
	SB left	125	203	55	307	130	230	80	335	145
	SB through	425	374	150	441	275	347	165	471	360
	NB through	725	578	490	727	**1,015**	466	320	570	580
Hammatt Ave / F Street	SB through	710	461	260	534	510	491	290	636	620
	NB through	n.a.	324	105	461	255	260	70	350	120

Bold Values Exceed available storage

ACCESS AND CIRCULATION

Key Issues

The adequacy of site access has been evaluated within the context of issues which will ensure safe traffic operation under long term conditions and improvements found to be needed at the adjoining Hammatt Avenue / Campbell Blvd intersection.

STAA Truck Access. The project will be required by the City to make frontage improvements along Campbell Blvd that are consistent with the long term plan for this road (i.e. 5-lane section), and the project's three truck driveways are very broad. Within that context the final layout of site driveway will need to confirm that STAA truck turns can be accommodated without encroaching into opposing travel lanes, and this evidence will be part of an application to Caltrans for STAA designation. The City of Livingston will be the agency working with Caltrans for STAA designation on the route to the Hammatt Avenue intersection. If the project proponent wishes STAA access to the SR 99 / Sultana Blvd interchange in Merced County as well, then similar evidence will be required and an STAA application through Merced County would be required.

Access at Industrial Drive. The project proposes automobile access at a driveway on Campbell Blvd at a location opposite Industrial Drive. By aligning the driveway and intersection potential conflicts between opposing vehicles can be minimized. Left turn lanes will need to be created on Campbell Blvd as part of project frontage improvements. The final design of intersection improvements will need to accommodate the concurrent turning requirements of trucks accessing Industrial Drive and automobiles - RV's entering and exiting the project.

Access near Hammatt Avenue. The western driveway is located about 300 feet from Hammatt Avenue (centerline to centerline) and roughly 210 feet of storage will exist in the left turn lane between the driveway and the crosswalk anticipated at Campbell Blvd. the queuing analysis indicates that under mitigated conditions with other approved projects the 95th percentile queues extending back from Hammatt Avenue could be reach 320 feet, including vehicles that might have turned left from the driveway. Under these conditions it is likely that the City will need to prohibit left turns at the western driveway.

FINDINGS/ MITIGATION MEASURES / RECOMMENDATIONS

The purpose of this section is to summarize significant project impacts and to describe measures which will reduce those impacts to a less than significant level. "Unacceptable" conditions are identified as those which exceed the City of Livingston's Level of Service C threshold.

The feasibility of completing identified improvements has been discussed, and the extent to which funding is available to complete cumulative mitigation measures has been evaluated. The Moonglo Truck Stop project's fair share of cumulative mitigation measures follows as Table 23 and has differentiated the shares associated with the initial development and build out.

Current Conditions

Currently two of the four study intersections addressed herein operate with Levels of Service which exceed the City's LOS C minimum. However, peak hour traffic signal warrants are not satisfied during more than one time period, and the length of existing peak period queues does not exceed the available storage area length or extend back into adjoining intersections. Adequate Levels of Service are delivered at freeway ramps junctions. Therefore, no capacity improvements are needed in this area of Livingston at this time.

Existing Plus Moonglo Truck Stop Project Phase 1

Three traffic impacts have been identified for Existing Plus Project conditions:

Impact Phase 1-1: Impact to Level of Service at intersections on Hammatt Avenue. With Phase 1 the addition of project generated automobile and truck traffic onto the adjacent street system will result in two intersections operating with delays that are indicative of LOS F, and on intersections operating at LOS D. Peak hour traffic signal warrants will be satisfied both time periods at the Hammatt Avenue / Campbell Blvd intersection and during one time period at the two SR 99 ramp intersections. This is a significant traffic impact.

The following improvements are needed to deliver a Level of Service that satisfies the City's minimum LOS C standard, as noted in Table 19. Those improvements also result in the queues shown in Table 20.

- A traffic signal at the Hammatt Avenue / Campbell Blvd intersection, and with Campbell Blvd east of Hammatt Avenue improved along the project frontage.
- A traffic signal or roundabout at the Hammatt Avenue / SR 99 NB ramps.
- A traffic signal or roundabout at the Hammatt Avenue / SR 99 SB ramps.
- Install a system to coordinate the operation of these traffic signals.

As noted in the analysis, under Traffic Operations Policy Directive 13-02 Caltrans is required to consider the relative merits of alternative traffic controls at intersections. The policy directive requires preparation of an *Intersection Control Evaluation (ICE)* to determine the preferred traffic control, although the scope of the ICE evaluation can vary (i.e., preliminary or complete

ICE report). An ICE report would consider the feasibility of either a traffic signal or roundabout intersection within the context of both short term and long term conditions and would compare the investments required to implement each alternative in terms of right of way and cost. Caltrans may not be able to support installation of a traffic signal at ramp intersections without that analysis.

Mitigation 1: The City of Livingston is currently working to design and construct intersection improvements to the Campbell Blvd / Hammatt Avenue intersection, and that work will include a traffic signal. Phase 1 should contribute its fair share to the cost of this improvement. This mitigation is consistent with the City's requirements for other approved development projects.

Mitigation 2: Phase 1 should contribute its fair share to the cost of traffic signals or roundabouts at the SR 99 NB ramps / Hammatt Avenue intersection and at the SR 99 / SB ramps / Hammatt Avenue intersection.

Mitigation 3: Phase 1 should contribute its fair share to the cost of preparing a preliminary ICE report to provide a screening assessment of the feasibility of a roundabout or traffic signal at the SR 99 ramps intersections.

Impact Phase 1-2: Impact to Pedestrian Circulation and Safety. Phase 1 may result in pedestrians wishing to walk between the site and the balance of Livingston.

A safe route along Campbell Blvd and a safe crossing on Hammatt Avenue are needed.

Mitigation: Phase 1 should install frontage improvements along Campbell Blvd, including sidewalks. Standard pedestrian crossing controls and ADA accessible ramps should be included in the Hammatt Avenue / Campbell Blvd traffic signal, and the project should contribute its fair share to the cost of those features.

Impact Phase 1-3: Impact to Safety based on Truck Turning. The project will add truck traffic to the intersections on Hammatt Avenue, and today those intersections do not appear to have been designated for STAA truck access. While improvements to accommodate trucks turning in this area do not appear to be necessary, this is not a legal route. Unless designed correctly, improvements to the Hammatt Avenue / Campbell Blvd intersection and project access on Campbell Blvd may interfere with STAA truck access. Without an STAA truck designation on the route, these trucks could be cited - ticketed by the CHP. This is a potentially significant safety impact.

Mitigation: Improvements to the Hammatt Avenue / Campbell Blvd intersection should be designed to accommodate STAA trucks, and the project should contribute its fair share to the cost of those features. Project access shall be designed to accommodate STAA trucks. Phase 1 shall contribute its fair share to the cost of a Caltrans STAA route designation application to be completed by the City and shall contribute its fair share to the cost of improvements needed to accommodate STAA trucks.

TABLE 19
MITIGATED EXISTING PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control	AM Peak Hour				PM Peak Hour			
		Existing Plus Project				Existing Plus Project			
		Phase 1		Build Out		Phase 1		Build Out	
		Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
Hammatt Ave / Campbell Blvd	Signal	21.6	C	26.0	C	18.8	B	20.0	C
Hammatt Ave / SR 99 NB ramps	Signal	18.6	B	20.2	C	14.8	B	15.2	B
Hammatt Ave / SR 99 SB ramps	Signal	19.3	B	21.3	C	19.6	B	22.4	C

LOS = Level of Service.
Bold Values Exceed LOS C

TABLE 20
MITIGATED EXISTING PLUS PROJECT PEAK HOUR INTERSECTION QUEUES

Intersection	Location	AM Peak Hour					PM Peak Hour			
			Existing Plus Project				Existing Plus Project			
			Phase 1		Build Out		Phase 1		Build Out	
		Storage (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)
Hammatt Ave / Campbell Blvd	EB right	40	108	70	108	85	141	75	141	95
	WB left+thru	n.a	198	200	286	205	194	175	248	180
	NB left	165	206	180	206	170	119	135	119	130
	SB left	175	29	100	49	160	30	80	36	85
	NB through	375	246	180	246	200	355	195	355	240
Hammatt Ave / SR 99 NB ramps	Off ramp	460	362	130	394	145	340	140	366	150
	NB left	150	157	175	157	170	110	125	110	125
	NB through	425	380	225	419	160	461	140	491	170
	SB through	390	662	355	728	**410**	562	280	613	320
Hammatt Ave / SR 99 SB ramps	Off ramp	360	250	175	275	200	444	210	463	240
	SB left	125	208	180	237	180	215	180	239	195
	SB through	425	225	150	236	180	289	230	298	285
	NB through	725	530	335	533	370	413	250	423	310
Hammatt Ave / F Street	SB through	710	415	175	427	195	437	185	446	200
	NB through	n.a.	300	65	308	80	236	50	242	55

Bold Values Exceed available storage

Existing Plus Build Out of Moonglo Truck Stop Project

This traffic impact has been identified for Existing Plus Project Build Out condition. Tables 21 and 22 identify mitigated Levels of Service and Queues, respectively.

Impact Build Out-1: Impact to Level of Service at intersections Hammatt Avenue. With Build Out the addition of project generated automobile and truck traffic onto the adjacent street system will result in two intersections operating with delays that are indicative of LOS F, and one intersection operating at LOS E. Peak hour traffic signal warrants will be satisfied both time periods at the Hammatt Avenue / Campbell Blvd intersection at during on time period at the two SR 99 ramp intersections. This is a significant traffic impact.

Mitigation: In addition to the improvements note for Phase 1, project should contribute its fair share to the cost of the following improvements shown in bold which are needed to deliver a Level of Service that satisfies the City's minimum LOS C standard:

- *A traffic signal at the Hammatt Avenue / Campbell Blvd intersection, and with Campbell Blvd east of Hammatt Avenue improved along the project frontage,* **and add a 200 foot long eastbound right turn lane on Campbell Blvd with right turn overlap phases on the NB to EB and EB to SB movements.**
- *A traffic signal or roundabout at the Hammatt Avenue / SR 99 NB ramps*
- *A traffic signal or roundabout at the Hammatt Avenue / SR 99 SB ramps*

Background Cumulative Conditions without Moonglo Truck Stop Project

If other identified projects are completed, then all four study intersections will operate with LOS F which exceeds the City of Livingston's LOS C standard (Table 16), and all four intersections will carry traffic volumes that satisfy peak hour traffic signal warrants. The following improvements would be needed without the Moonglo project to satisfy the City's minimum LOS C standard.

- A traffic signal at the Hammatt Avenue / Campbell Blvd intersection and add a 200 foot long eastbound right turn lane on Campbell Blvd with a right turn overlap phase.
- A traffic signal or roundabout at the Hammatt Avenue / SR 99 NB ramps
- A traffic signal or roundabout at the Hammatt Avenue / SR 99 SB ramps
- A traffic signal at the Hammatt Avenue / F Street intersection

Cumulative Plus Phase 1 of Moonglo Truck Stop Project

This traffic impact has been identified for Cumulative Plus Project Phase 1 condition.

Impact Cumulative Plus Phase 1: Impact to Level of Service at intersections Hammatt Avenue. The addition of project generated automobile and truck traffic onto the adjacent street system with background cumulative traffic will exacerbate conditions at four intersections

operating with delays that are indicative of LOS F, and peak hour traffic signal warrants will be satisfied at all four locations.

Mitigation: In addition to the improvements noted for the background Cumulative condition, the project should also contribute its fair share to the cost of following improvements shown in Bold which are needed to deliver a Level of Service that satisfies the City's minimum LOS C standard.

- *A traffic signal at the Hammatt Avenue / Campbell Blvd intersection* **with Campbell Blvd east of Hammatt Avenue improved along the project frontage to include a westbound left turn lane ,** *and add a 200 foot long Eastbound right turn lane on Campbell Blvd with a right turn overlap phase*, **convert the Southbound right turn lane to a through+right turn lane and add a northbound to eastbound overlap phase.**
- A traffic signal or roundabout at the Hammatt Avenue / SR 99 NB ramps, **and construct a southbound right turn lane on Hammett Avenue that extends to Campbell Blvd.**
- A traffic signal or roundabout at the Hammatt Avenue / SR 99 SB ramps.
- A traffic signal at the Hammatt Avenue / F Street intersection.

Impact Cumulative Plus Buildout 1: Impact to Level of Service at intersections Hammatt Avenue. The addition of project generated automobile and truck traffic onto the adjacent street system with background cumulative traffic will exacerbate conditions at four intersections operating with delays that are indicative of LOS F, and peak hour traffic signal warrants will be satisfied at all four locations.

Mitigation. The same improvements noted for the Cumulative Plus Phase 1 condition are needed to deliver LOS C with project buildout.

Impact Cumulative Buildout 2: Impact at Western Driveway. Under these conditions the 95th percentile queue extending back on Campbell Blvd from Hammatt Avenue is projected to extend beyond the western driveway, and a safety impact may be created.

There are two methods for dealing with this issue. One alternative would reconfigure the westbound Campbell Blvd approach to allow left turns from two lanes. This change would equalize traffic volumes in each lane and reduce the queue lengths. This method would be preferable because it would provide separate lanes for trucks headed to the northbound and southbound SR 99 on-ramps. The choice would however require that the layout of the Hammatt Avenue / Campbell Blvd intersection be wider to accommodate the concurrent turning paths of two STAA trucks.

The alternative approach would be to prohibit left turns at the western driveway.

Mitigation. Either: The City of Livingston shall monitor the operation of the western driveway. If determined to be needed by the City, the project proponents shall fund construction of a median treatment or other measure acceptable to the City to prohibit left turns, or

The project proponents shall contribute their fair share to the cost of expanding the design of the Hammett Avenue / Campbell Blvd intersection to accommodate left turns by trucks from two lanes.

Project Fair Share Percentages

Calculation Methods The calculation of the project's fair share percentage at each intersection is based on its share of the future traffic at each location. Table 23 tabulates the components of total Cumulative Plus Project traffic forecasts at each location and identifies the existing p.m. peak hour traffic, as well as the traffic caused by the project and by other approved projects.

Caltrans traffic study guidelines provide a framework for calculating the fair share, but as noted in Table 23 there is a consideration that could guide the results. Under the typical process, it is assumed that the development causing new traffic at the location would contribute to the cost of improvements. That assumption suggests that existing traffic has no responsibility for the improvement because current operating conditions are acceptable and that the need for the improvement is solely the result of new growth. This assumption also suggests that no other source of funds for improvements will be available. Under this assumption the fair share is the projects traffic divided by the total future traffic less current volumes.

The alternative approach assumes that the exiting traffic contributes to the need for long term improvements. In this case the share is project traffic divided by total future traffic. Application of this method requires the assumption that a source of funds other than the project and future development will be available. This could be the case were the City of Livingston had secured funds for improvements and it was necessary to allocate the share of the cost that may be the City's "responsibility". This approach is less applicable when no other source for funds has been identified, as is normally the case.

TABLE 21
MITIGATED CUMULATIVE PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control	AM Peak Hour						PM Peak Hour					
		Cumulative		Cumulative Plus Project				Cumulative		Cumulative Project			
				Phase 1		Build Out				Phase 1		Build Out	
		Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
Hammatt Ave / Campbell Blvd	Signal	26.2	C	32.6	C	28.5	C	20.0	C	18.5	B	23.7	C
Hammatt Ave / SR 99 NB ramps	Signal	21.5	C	27.7	C	17.6	B	19.5	B	15.8	B	19.8	B
Hammatt Ave / SR 99 SB ramps	Signal	23.1	C	31.5	C	34.9	C	23.0	C	31.7	C	34.7	C
Hammatt Ave / F Street	Signal	14.5	B	13.3	B	16.2	B	13.2	B	15.3	B	15.7	B

LOS = Level of Service.
Bold Values Exceed LOS C

TABLE 22
MITIGATED CUMULATIVE PLUS PROJECT PEAK HOUR INTERSECTION QUEUES

Intersection	Lane	Storage (feet)	AM Peak Hour						PM Peak Hour					
			Cumulative		Cumulative Plus Project				Cumulative		Cumulative Plus Project			
					Phase 1		Build Out				Phase 1		Build Out	
			Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)
Hammatt Ave / Campbell Blvd	EB right	40	220	135	214	150	214	105	273	140	266	120	266	135
	WB thru	500	37	165	83	100	95	105	54	125	94	95	103	115
	WB left	210	58	-	205	280	269	325	60	-	178	250	229	300
	NB left	165	397	210	386	215	386	250	239	180	233	180	233	205
	SB left	175	12	95	50	160	58	140	9	60	35	75	41	115
	NB through	375	270	365	256	460	256	355	424	185	408	225	408	320
Hammatt Ave / SR 99 NB ramps	Off ramp	460	393	170	447	380	479	285	406	180	457	175	483	220
	NB left	150	176	180	176	200	176	175	120	145	120	130	120	170
	NB through	425	462	255	527	360	566	210	530	170	591	115	621	305
	SB through	390	488	395	564	375	606	360	477	385	540	320	573	360
	SB right		224		267		291	85	182	-	218	100	236	130
Hammatt Ave / SR 99 SB ramps	Off ramp	360	260	160	304	250	329	230	468	220	509	280	528	320
	SB left	125	203	180	258	195	287	200	230	200	275	200	299	205
	SB through	425	400	195	422	410	433	575	429	330	447	490	456	595
	NB through	725	474	445	702	540	715	630	527	350	547	515	557	485
Hammatt Ave / F Street	SB through	710	493	220	514	290	526	240	594	290	612	310	621	340
	NB through	n.a.	430	215	445	225	453	220	321	170	335	190	341	215
	EB through	n.a.	265	235	272	190	277	240	242	190	249	230	252	235

Bold Values Exceed available storage

TABLE 23
FAIR SHARE CALCULATION

Location	A	B		C	D	Fair Share Percentage						
		Project Only				A s Share of New Growth Only[2]			As a Share of All Cumulative Traffic[2]			
	Existing	Phase 1 only	Balance of Moonglo Project	Other Growth	Cumulative Plus Project	Phase 1	Balance of Moonglo Project	Other Growth	Phase 1 Only	Balance of Moonglo Project	Other Growth	Other Agency
Based on PM Peak Hour Traffic												
Hammatt Ave / Campbell Blvd	1,120	291	125	471	2,007	33%	14%	53%	15%	6%	23%	56%
Hammatt Ave / SR 99 NB ramps	1,262	211	107	453	2,033	27%	14%	59%	10%	5%	25%	62%
Hammatt Ave / SR 99 SB ramps	1,236	124	63	418	1,841	21%	10%	69%	7%	4%	22%	67%
Hammatt Ave / F Street	935	39	18	305	1,297	11%	5%	84%	3%	1%	24%	72%

B/ (D-A) is the fair share as a percentage of new future traffic only
B/D is fair share based on all cumulative traffic

APPENDICES

(under separate cover)

TECHNICAL APPENDIX

FOR

MOONGLO TRUCK STOP
TRANSPORTATION IMPACT ANALYSIS
Livingston, CA

Prepared For:

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July 24, 2020

3620-16

Prepared by National Data & Surveying Services

Hammatt Ave & F St

Peak Hour Turning Movement Count

ID: 19-07420-003
City: Livingston

Day: Tuesday
Date: 11/05/2019

PEAK HOURS		COUNT PERIODS
AM	07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:30 PM - 05:30 PM	04:00 PM - 06:00 PM

Hammatt Ave — SOUTHBOUND

	Right	Through	Left	U-Turn	Departing
AM	159	197	38	0	500
NOON	0	0	0	0	0
PM	161	211	47	0	412
Peds	0	0	0	0	

F St — EASTBOUND

	AM	NOON	PM	
Departing	189	0	205	
U-Turn	0	0	0	0
Left	207	0	171	0
Through	6	0	11	0
Right	23	0	31	0

F St — WESTBOUND

		PM	NOON	AM
Right	0	53	0	32
Through	0	17	0	9
Left	0	11	0	0
U-Turn	0	0	0	0
Departing		65	0	47

Hammatt Ave — NORTHBOUND

	Departing	U-Turn	Left	Through	Right
Peds		0	0	0	0
PM	253	0	27	188	7
NOON	0	0	0	0	0
AM	220	0	21	261	3

CONTROL

4-Way Stop

	AM	NOON	PM
TEV	956	0	935
PHF	0.79		0.91

Total Vehicles (AM)

SB: 159, 197, 38 — EB: 207, 6, 23 — WB: 32, 9, 0 — NB: 21, 261, 3

Total Vehicles (Noon)

SB: N/A, N/A, N/A — EB: N/A, N/A, N/A — WB: N/A, N/A, N/A — NB: N/A, N/A, N/A

Total Vehicles (PM)

SB: 161, 211, 47 — EB: 171, 11, 31 — WB: 53, 17, 11 — NB: 27, 188, 7

Bikes (AM)

SB: 0, 0, 0 — EB: 0, 0, 0 — WB: 0, 0, 0 — NB: 0, 1, 0

Bikes (NOON)

SB: N/A, N/A, N/A — EB: N/A, N/A, N/A — WB: N/A, N/A, N/A — NB: N/A, N/A, N/A

Bikes (PM)

SB: 0, 0, 0 — EB: 0, 2, 0 — WB: 0, 3, 1 — NB: 0, 0, 1

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North	→	0	0	0
North	←	1	0	1
West	↓	1	0	4
West	↑	0	0	3
East	↓	0	0	0
East	↑	0	0	1
South	→	0	0	2
South	←	0	0	1
NW diagonal		0	0	0
NE diagonal		0	0	0
SW diagonal		0	0	0
SE diagonal		0	0	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hammatt Ave & F St
City: Livingston
Control: 4-Way Stop

Project ID: 19-07420-003
Date: 11/5/2019

Total

NS/EW Streets:	Hammatt Ave				Hammatt Ave				F St				F St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	44	0	0	3	23	9	0	13	2	2	0	0	0	2	0	99
7:15 AM	8	55	1	0	8	38	31	0	51	0	3	0	0	2	8	0	205
7:30 AM	4	78	1	0	7	72	51	0	51	3	8	0	0	2	8	0	285
7:45 AM	9	85	1	0	16	64	55	0	57	2	5	0	0	3	7	0	304
8:00 AM	0	43	0	0	7	23	22	0	48	1	7	0	0	2	9	0	162
8:15 AM	1	26	2	0	6	21	14	1	24	0	3	0	1	1	11	0	111
8:30 AM	2	31	3	0	8	23	21	0	27	3	1	0	0	1	7	0	127
8:45 AM	3	30	1	0	7	25	20	0	18	2	1	0	0	2	9	0	118
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	28	392	9	0	62	289	223	1	289	13	30	0	1	13	61	0	1411
APPROACH %'s :	6.53%	91.38%	2.10%	0.00%	10.78%	50.26%	38.78%	0.17%	87.05%	3.92%	9.04%	0.00%	1.33%	17.33%	81.33%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	21	261	3	0	38	197	159	0	207	6	23	0	0	9	32	0	956
PEAK HR FACTOR :	0.583	0.768	0.750	0.000	0.594	0.684	0.723	0.000	0.908	0.500	0.719	0.000	0.000	0.750	0.889	0.000	0.786
		0.750				0.730				0.922				0.932			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	4	53	1	0	13	54	58	0	39	3	6	0	2	4	7	0	244
4:15 PM	4	44	2	0	15	41	32	0	38	6	8	0	3	4	12	0	209
4:30 PM	5	45	0	0	17	41	41	0	46	2	8	0	1	5	19	0	230
4:45 PM	9	49	2	0	6	48	48	0	40	0	7	0	3	6	10	0	228
5:00 PM	7	49	2	0	12	63	40	0	50	4	9	0	2	4	14	0	256
5:15 PM	6	45	3	0	12	59	32	0	35	5	7	0	5	2	10	0	221
5:30 PM	5	43	1	0	11	66	40	0	37	4	5	0	4	3	10	0	229
5:45 PM	8	36	1	0	11	37	44	0	27	4	3	0	1	1	7	0	180
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	48	364	12	0	97	409	335	0	312	28	53	0	21	29	89	0	1797
APPROACH %'s :	11.32%	85.85%	2.83%	0.00%	11.53%	48.63%	39.83%	0.00%	79.39%	7.12%	13.49%	0.00%	15.11%	20.86%	64.03%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	27	188	7	0	47	211	161	0	171	11	31	0	11	17	53	0	935
PEAK HR FACTOR :	0.750	0.959	0.583	0.000	0.691	0.837	0.839	0.000	0.855	0.550	0.861	0.000	0.550	0.708	0.697	0.000	0.913
		0.925				0.911				0.845				0.810			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hammatt Ave & F St
City: Livingston
Control: 4-Way Stop

Project ID: 19-07420-003
Date: 11/5/2019

Bikes

NS/EW Streets:	Hammatt Ave				Hammatt Ave				F St				F St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%													
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
		0.250															

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	2	0	0	1	2	0	0	6
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	1	0	0	0	0	0	1	2	0	0	1	3	0	0	8
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%					33.33%	66.67%	0.00%	0.00%	25.00%	75.00%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	1	0	0	0	0	0	0	2	0	0	1	3	0	0	7
PEAK HR FACTOR :	0.00	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.375	0.000	0.000	0.292
		0.250								0.250				0.333			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hammatt Ave & F St
City: Livingston

Project ID: 19-07420-003
Date: 11/5/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Hammatt Ave		Hammatt Ave		F St		F St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	0	0	1	2
8:15 AM	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	1	0	1	0	0	1	1	5
APPROACH %'s :	50.00%	50.00%	0.00%	100.00%			50.00%	50.00%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	1	2
PEAK HR FACTOR :		0.250						0.250	0.250
	0.250						0.250		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	1
4:30 PM	0	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	1	3	4
5:00 PM	0	1	1	0	1	0	0	0	3
5:15 PM	0	0	1	0	0	0	2	1	4
5:30 PM	0	0	0	1	0	0	1	0	2
5:45 PM	2	2	0	0	0	0	0	0	4
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	2	3	3	2	1	0	4	4	19
APPROACH %'s :	40.00%	60.00%	60.00%	40.00%	100.00%	0.00%	50.00%	50.00%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	1	2	1	1	0	3	4	12
PEAK HR FACTOR :		0.250	0.500	0.250	0.250		0.375	0.333	0.750
	0.250		0.750		0.250		0.438		

Prepared by National Data & Surveying Services

Hammatt Ave & SB SR 99 Ramp

Peak Hour Turning Movement Count

ID: 19-07420-004
City: Livingston

Day: Tuesday
Date: 11/05/2019

PEAK HOURS: 07:15 AM - 08:15 AM; NONE; 04:45 PM - 05:45 PM

COUNT PERIODS: 07:00 AM - 09:00 AM; NONE; 04:00 PM - 06:00 PM

Hammatt Ave — SOUTHBOUND

AM	0	303	153	0	473	AM
NOON	0	0	0	0	0	NOON
PM	0	271	170	0	510	PM

SB SR 99 Ramp — EASTBOUND

AM	NOON	PM	
0	0	0	
0	0	0	0
118	0	237	0
1	0	1	0
87	0	164	0
AM	NOON	PM	

CONTROL

3-Way Stop (NB/SB/EB)

	AM	NOON	PM
TEV	1160	0	1236
PHF	0.82		0.93

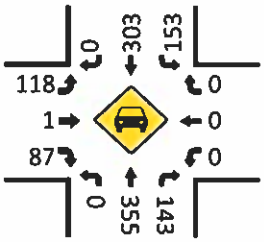
WESTBOUND — SB SR 99 Ramp

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
291	0	297	
PM	NOON	AM	

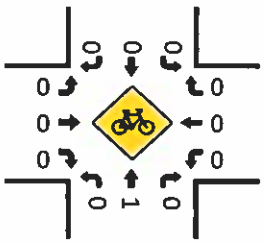
Hammatt Ave — NORTHBOUND

PM	435	0	0	273	120	PM
NOON	0	0	0	0	0	NOON
AM	390	0	0	355	143	AM

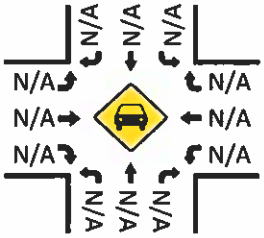
Total Vehicles (AM)



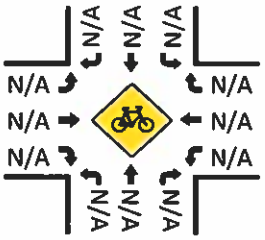
Bikes (AM)



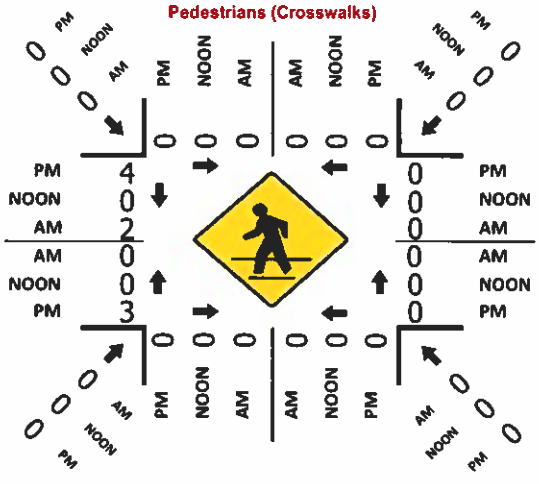
Total Vehicles (Noon)



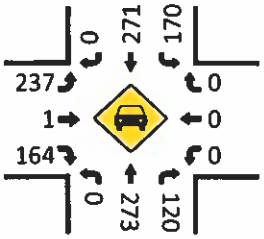
Bikes (NOON)



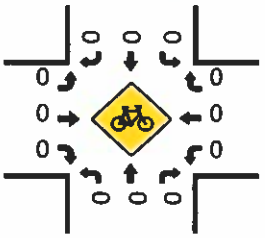
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Hammatt Ave & SB SR 99 Ramp
City: Livingston
Control: 3-Way Stop (NB/SB/EB)

Project ID: 19-07420-004
Date: 11/5/2019

Total

NS/EW Streets:	Hammatt Ave				Hammatt Ave				SB SR 99 Ramp				SB SR 99 Ramp				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	47	16	0	35	20	0	0	20	0	18	0	0	0	0	0	156
7:15 AM	0	71	36	0	39	53	0	0	22	0	22	0	0	0	0	0	243
7:30 AM	0	105	34	0	43	110	0	0	22	0	31	0	0	0	0	0	345
7:45 AM	0	112	37	0	34	98	0	0	46	1	26	0	0	0	0	0	354
8:00 AM	0	67	36	0	37	42	0	0	28	0	8	0	0	0	0	0	218
8:15 AM	0	45	17	0	19	31	0	0	28	0	12	0	0	0	0	0	152
8:30 AM	0	50	16	0	32	29	0	0	23	0	23	0	0	0	0	0	173
8:45 AM	0	40	16	0	41	35	0	0	24	0	15	0	0	0	0	0	171
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	537	208	0	280	418	0	0	213	1	155	0	0	0	0	0	1812
APPROACH %'s :	0.00%	72.08%	27.92%	0.00%	40.11%	59.89%	0.00%	0.00%	57.72%	0.27%	42.01%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	355	143	0	153	303	0	0	118	1	87	0	0	0	0	0	1160
PEAK HR FACTOR :	0.000	0.792	0.966	0.000	0.890	0.689	0.000	0.000	0.641	0.250	0.702	0.000	0.000	0.000	0.000	0.000	0.819
		0.836				0.745				0.705							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	62	31	0	45	73	0	0	48	1	47	0	0	0	0	0	307
4:15 PM	0	77	25	0	25	57	0	0	52	0	35	0	0	0	0	0	271
4:30 PM	0	75	36	0	45	59	0	0	64	0	40	0	0	0	0	0	319
4:45 PM	0	69	33	0	42	63	0	0	66	0	39	0	0	0	0	0	312
5:00 PM	0	81	31	0	35	77	0	0	48	1	36	0	0	0	0	0	309
5:15 PM	0	64	26	0	37	67	0	0	51	0	39	0	0	0	0	0	284
5:30 PM	0	59	30	0	56	64	0	0	72	0	50	0	0	0	0	0	331
5:45 PM	0	45	26	0	54	67	0	0	48	0	27	0	0	0	0	0	267
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	532	238	0	339	527	0	0	449	2	313	0	0	0	0	0	2400
APPROACH %'s :	0.00%	69.09%	30.91%	0.00%	39.15%	60.85%	0.00%	0.00%	58.77%	0.26%	40.97%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	273	120	0	170	271	0	0	237	1	164	0	0	0	0	0	1236
PEAK HR FACTOR :	0.000	0.843	0.909	0.000	0.759	0.880	0.000	0.000	0.823	0.250	0.820	0.000	0.000	0.000	0.000	0.000	0.934
		0.877				0.919				0.824							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hammatt Ave & SB SR 99 Ramp
City: Livingston
Control: 3-Way Stop (NB/SB/EB)

Project ID: 19-07420-004
Date: 11/5/2019

Bikes

NS/EW Streets:	Hammatt Ave				Hammatt Ave				SB SR 99 Ramp				SB SR 99 Ramp				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%													
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
		0.250															

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hammatt Ave & SB SR 99 Ramp
City: Livingston

Project ID: 19-07420-004
Date: 11/5/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Hammatt Ave		Hammatt Ave		SB SR 99 Ramp		SB SR 99 Ramp		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	1	2	3
APPROACH %'s :							33.33%	66.67%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	2	2
PEAK HR FACTOR :								0.500	0.500
							0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	3	3
5:00 PM	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	2	1	3
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	3	5	8
APPROACH %'s :							37.50%	62.50%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	3	4	7
PEAK HR FACTOR :							0.375	0.333	0.583
							0.583		

Prepared by National Data & Surveying Services

Hammatt Ave & NB SR 99 Ramp

Peak Hour Turning Movement Count

ID: 19-07420-005
City: Livingston

Day: Tuesday
Date: 11/05/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Hammatt Ave — SOUTHBOUND

AM	181	362	0	0	526	AM
NOON	0	0	0	0	0	NOON
PM	137	326	0	0	571	PM

EASTBOUND — NB SR 99 Ramp

AM	NOON	PM	
339	0	249	⇦
0	0	0	↱ 0
0	0	0	→ 0
0	0	0	↳ 0
AM	NOON	PM	

WESTBOUND — NB SR 99 Ramp

PM	NOON	AM	
171	0	211	0 ↰
2	0	1	0 ←
116	0	95	0 ↰
0	0	0	0 ↰
0	0	0	⇨
PM	NOON	AM	

CONTROL

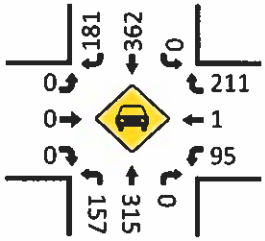
3-Way Stop (NB/SB/WB)

TEV	1322 AM	0 NOON	1262 PM
PHF	0.86		0.94

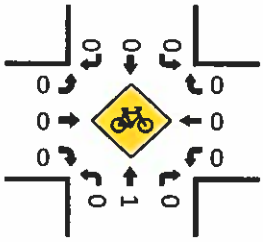
NORTHBOUND — Hammatt Ave

PM	442	0	110	400	0 PM
NOON	0	0	0	0	0 NOON
AM	457	0	157	315	0 AM

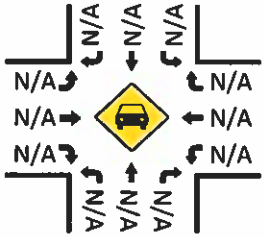
Total Vehicles (AM)



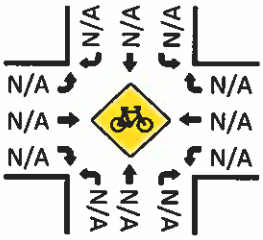
Bikes (AM)



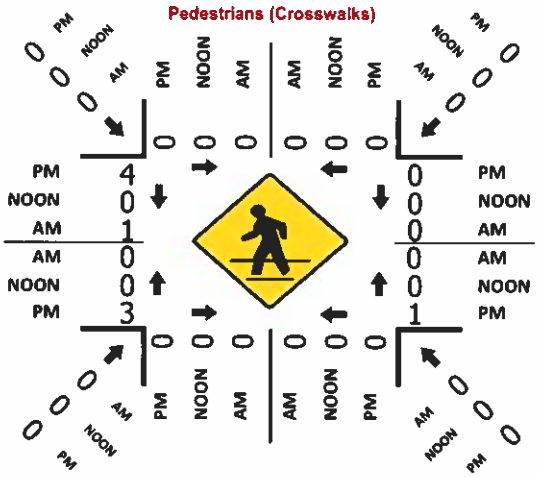
Total Vehicles (Noon)



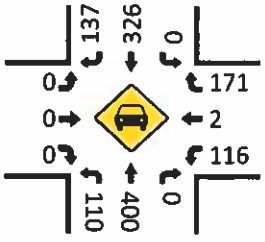
Bikes (NOON)



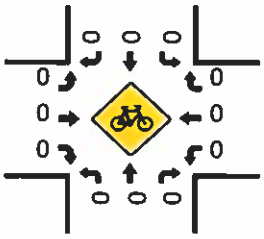
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Hammatt Ave & NB SR 99 Ramp
City: Livingston
Control: 3-Way Stop (NB/SB/WB)

Project ID: 19-07420-005
Date: 11/5/2019

Total

NS/EW Streets:	Hammatt Ave				Hammatt Ave				NB SR 99 Ramp				NB SR 99 Ramp				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	26	39	0	0	0	48	45	0	0	0	0	0	8	0	29	0	195
7:15 AM	45	50	0	0	0	74	53	0	0	0	0	0	20	0	48	0	290
7:30 AM	46	77	0	0	0	125	50	0	0	0	0	0	32	0	55	0	385
7:45 AM	33	124	0	0	0	101	40	0	0	0	0	0	25	0	62	0	385
8:00 AM	33	64	0	0	0	62	38	0	0	0	0	0	18	1	46	0	262
8:15 AM	25	47	0	0	0	42	23	0	0	0	0	0	10	1	40	0	188
8:30 AM	18	55	0	0	0	50	36	0	0	0	0	0	11	0	51	0	221
8:45 AM	19	46	0	0	0	64	32	0	0	0	0	0	11	0	69	0	241
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	245	502	0	0	0	566	317	0	0	0	0	0	135	2	400	0	2167
APPROACH %'s :	32.80%	67.20%	0.00%	0.00%	0.00%	64.10%	35.90%	0.00%					25.14%	0.37%	74.49%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	157	315	0	0	0	362	181	0	0	0	0	0	95	1	211	0	1322
PEAK HR FACTOR :	0.853	0.635	0.000	0.000	0.000	0.724	0.854	0.000	0.000	0.000	0.000	0.000	0.742	0.250	0.851	0.000	0.858
	0.752				0.776								0.882				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	28	80	0	0	0	90	39	0	0	0	0	0	27	1	28	0	293
4:15 PM	32	97	0	0	0	59	42	0	0	0	0	0	25	0	21	0	276
4:30 PM	32	106	0	0	0	87	37	0	0	0	0	0	16	1	25	0	304
4:45 PM	29	106	0	0	0	73	39	0	0	0	0	0	35	1	40	0	323
5:00 PM	38	91	0	0	0	89	30	0	0	0	0	0	22	0	40	0	310
5:15 PM	20	93	0	0	0	74	36	0	0	0	0	0	28	0	41	0	292
5:30 PM	23	110	0	0	0	90	32	0	0	0	0	0	31	1	50	0	337
5:45 PM	18	74	0	0	0	100	32	0	0	0	0	0	24	0	57	0	305
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	220	757	0	0	0	662	287	0	0	0	0	0	208	4	302	0	2440
APPROACH %'s :	22.52%	77.48%	0.00%	0.00%	0.00%	69.76%	30.24%	0.00%					40.47%	0.78%	58.75%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	110	400	0	0	0	326	137	0	0	0	0	0	116	2	171	0	1262
PEAK HR FACTOR :	0.724	0.909	0.000	0.000	0.000	0.906	0.878	0.000	0.000	0.000	0.000	0.000	0.829	0.500	0.855	0.000	0.936
	0.944				0.949								0.881				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hammatt Ave & NB SR 99 Ramp
City: Livingston
Control: 3-Way Stop (NB/SB/WB)

Project ID: 19-07420-005
Date: 11/5/2019

Bikes

NS/EW Streets:	Hammatt Ave				Hammatt Ave				NB SR 99 Ramp				NB SR 99 Ramp				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%													
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
		0.250															

NS/EW Streets:	Hammatt Ave				Hammatt Ave				NB SR 99 Ramp				NB SR 99 Ramp				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hammatt Ave & NB SR 99 Ramp
City: Livingston

Project ID: 19-07420-005
Date: 11/5/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Hammatt Ave		Hammatt Ave		NB SR 99 Ramp		NB SR 99 Ramp		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	1	2	3
APPROACH %'s :							33.33%	66.67%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	1	1
PEAK HR FACTOR :								0.250	0.250
							0.250		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	3	3
5:00 PM	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	1	0	2	1	4
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	1	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	0	4	5	10
APPROACH %'s :					100.00%	0.00%	44.44%	55.56%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	0	0	1	0	3	4	8
PEAK HR FACTOR :					0.250		0.375	0.333	0.500
					0.250		0.583		

KDA

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	9	111	39	14	5	211	253	64	3	393	19
Future Vol, veh/h	4	9	111	39	14	5	211	253	64	3	393	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	160	-	150	170	-	260
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	10	121	42	15	5	229	275	70	3	427	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1211	1236	427	1242	1187	275	448	0	0	345	0	0
Stage 1	433	433	-	733	733	-	-	-	-	-	-	-
Stage 2	778	803	-	509	454	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	159	176	628	152	188	764	1112	-	-	1214	-	-
Stage 1	601	582	-	412	426	-	-	-	-	-	-	-
Stage 2	389	396	-	547	569	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	123	139	628	98	149	764	1112	-	-	1214	-	-
Mov Cap-2 Maneuver	123	139	-	98	149	-	-	-	-	-	-	-
Stage 1	477	581	-	327	338	-	-	-	-	-	-	-
Stage 2	293	314	-	433	568	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.5	68	3.6	0.1
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1112	-	-	134	628	116	1214	-	-
HCM Lane V/C Ratio	0.206	-	-	0.105	0.192	0.543	0.003	-	-
HCM Control Delay (s)	9.1	-	-	35	12.1	68	8	-	-
HCM Lane LOS	A	-	-	E	B	F	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	0.3	0.7	2.6	0	-	-

Intersection	
Intersection Delay, s/veh	36.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	95	1	211	157	315	0	0	362	181
Future Vol, veh/h	0	0	0	95	1	211	157	315	0	0	362	181
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	103	1	229	171	342	0	0	393	197
Number of Lanes	0	0	0	0	1	1	1	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	14.1	17.5	65.6
HCM LOS	B	C	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	99%	0%	0%
Vol Thru, %	0%	100%	1%	0%	67%
Vol Right, %	0%	0%	0%	100%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	157	315	96	211	543
LT Vol	157	0	95	0	0
Through Vol	0	315	1	0	362
RT Vol	0	0	0	211	181
Lane Flow Rate	171	342	104	229	590
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.334	0.622	0.23	0.427	1.013
Departure Headway (Hd)	7.054	6.543	7.935	6.71	6.181
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	507	548	451	534	584
Service Time	4.833	4.322	5.716	4.49	4.245
HCM Lane V/C Ratio	0.337	0.624	0.231	0.429	1.01
HCM Control Delay	13.4	19.6	13.1	14.5	65.6
HCM Lane LOS	B	C	B	B	F
HCM 95th-tile Q	1.5	4.2	0.9	2.1	15.3

Intersection	
Intersection Delay, s/veh	23.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	118	1	87	0	0	0	0	355	143	153	303	0
Future Vol, veh/h	118	1	87	0	0	0	0	355	143	153	303	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	128	1	95	0	0	0	0	386	155	166	329	0
Number of Lanes	0	1	1	0	0	0	0	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	12.1	35.9	14.6
HCM LOS	B	E	B

Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	99%	0%	100%	0%
Vol Thru, %	71%	1%	0%	0%	100%
Vol Right, %	29%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	498	119	87	153	303
LT Vol	0	118	0	153	0
Through Vol	355	1	0	0	303
RT Vol	143	0	87	0	0
Lane Flow Rate	541	129	95	166	329
Geometry Grp	6	7	7	7	7
Degree of Util (X)	0.872	0.276	0.169	0.301	0.55
Departure Headway (Hd)	5.799	7.672	6.45	6.522	6.014
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	623	468	555	550	599
Service Time	3.838	5.427	4.204	4.268	3.76
HCM Lane V/C Ratio	0.868	0.276	0.171	0.302	0.549
HCM Control Delay	35.9	13.3	10.5	12.1	15.9
HCM Lane LOS	E	B	B	B	C
HCM 95th-tile Q	10.1	1.1	0.6	1.3	3.3

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	207	6	23	0	9	32	21	261	3	38	197	159
Future Vol, veh/h	207	6	23	0	9	32	21	261	3	38	197	159
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	225	7	25	0	10	35	23	284	3	41	214	173
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.6	9.5	13.5	16
HCM LOS	B	A	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	88%	0%	10%
Vol Thru, %	92%	3%	22%	50%
Vol Right, %	1%	10%	78%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	285	236	41	394
LT Vol	21	207	0	38
Through Vol	261	6	9	197
RT Vol	3	23	32	159
Lane Flow Rate	310	257	45	428
Geometry Grp	1	1	1	1
Degree of Util (X)	0.475	0.43	0.074	0.611
Departure Headway (Hd)	5.517	6.041	5.981	5.139
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	651	595	594	698
Service Time	3.571	4.099	4.065	3.189
HCM Lane V/C Ratio	0.476	0.432	0.076	0.613
HCM Control Delay	13.5	13.6	9.5	16
HCM Lane LOS	B	B	A	C
HCM 95th-tile Q	2.6	2.2	0.2	4.2

Intersection												
Int Delay, s/veh	6.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	18	148	42	22	12	125	371	69	4	272	21
Future Vol, veh/h	13	18	148	42	22	12	125	371	69	4	272	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	160	-	150	170	-	260
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	20	161	46	24	13	136	403	75	4	296	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1035	1054	296	1081	1002	403	319	0	0	478	0	0
Stage 1	304	304	-	675	675	-	-	-	-	-	-	-
Stage 2	731	750	-	406	327	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	210	226	743	195	242	647	1241	-	-	1084	-	-
Stage 1	705	663	-	444	453	-	-	-	-	-	-	-
Stage 2	413	419	-	622	648	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	172	200	743	129	214	647	1241	-	-	1084	-	-
Mov Cap-2 Maneuver	172	200	-	129	214	-	-	-	-	-	-	-
Stage 1	627	660	-	395	403	-	-	-	-	-	-	-
Stage 2	339	373	-	471	645	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.2	44.7	1.8	0.1
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1241	-	-	187	743	170	1084	-	-
HCM Lane V/C Ratio	0.109	-	-	0.18	0.217	0.486	0.004	-	-
HCM Control Delay (s)	8.3	-	-	28.4	11.2	44.7	8.3	-	-
HCM Lane LOS	A	-	-	D	B	E	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.6	0.8	2.3	0	-	-

Intersection	
Intersection Delay, s/veh	26.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	116	2	171	110	400	0	0	326	137
Future Vol, veh/h	0	0	0	116	2	171	110	400	0	0	326	137
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	126	2	186	120	435	0	0	354	149
Number of Lanes	0	0	0	0	1	1	1	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	13.1	23.6	37.1
HCM LOS	B	C	E

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	98%	0%	0%
Vol Thru, %	0%	100%	2%	0%	70%
Vol Right, %	0%	0%	0%	100%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	400	118	171	463
LT Vol	110	0	116	0	0
Through Vol	0	400	2	0	326
RT Vol	0	0	0	171	137
Lane Flow Rate	120	435	128	186	503
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.227	0.765	0.279	0.341	0.867
Departure Headway (Hd)	6.841	6.332	7.826	6.605	6.202
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	523	570	458	541	584
Service Time	4.61	4.1	5.604	4.383	4.264
HCM Lane V/C Ratio	0.229	0.763	0.279	0.344	0.861
HCM Control Delay	11.6	26.9	13.6	12.8	37.1
HCM Lane LOS	B	D	B	B	E
HCM 95th-tile Q	0.9	6.9	1.1	1.5	9.7

Intersection	
Intersection Delay, s/veh	19.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	237	1	164	0	0	0	0	273	120	170	271	0
Future Vol, veh/h	237	1	164	0	0	0	0	273	120	170	271	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	258	1	178	0	0	0	0	297	130	185	295	0
Number of Lanes	0	1	1	0	0	0	0	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	16.1	27.7	16.1
HCM LOS	C	D	C

Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	69%	0%	0%	0%	100%
Vol Right, %	31%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	393	238	164	170	271
LT Vol	0	237	0	170	0
Through Vol	273	1	0	0	271
RT Vol	120	0	164	0	0
Lane Flow Rate	427	259	178	185	295
Geometry Grp	6	7	7	7	7
Degree of Util (X)	0.766	0.543	0.314	0.369	0.546
Departure Headway (Hd)	6.453	7.559	6.336	7.181	6.67
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	560	476	565	499	539
Service Time	4.519	5.332	4.109	4.958	4.447
HCM Lane V/C Ratio	0.762	0.544	0.315	0.371	0.547
HCM Control Delay	27.7	19	12	14.1	17.3
HCM Lane LOS	D	C	B	B	C
HCM 95th-tile Q	6.9	3.2	1.3	1.7	3.3

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	171	11	31	11	17	53	27	188	7	47	211	161
Future Vol, veh/h	171	11	31	11	17	53	27	188	7	47	211	161
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	186	12	34	12	18	58	29	204	8	51	229	175
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.8	10	12	17
HCM LOS	B	A	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	80%	14%	11%
Vol Thru, %	85%	5%	21%	50%
Vol Right, %	3%	15%	65%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	222	213	81	419
LT Vol	27	171	11	47
Through Vol	188	11	17	211
RT Vol	7	31	53	161
Lane Flow Rate	241	232	88	455
Geometry Grp	1	1	1	1
Degree of Util (X)	0.375	0.386	0.144	0.644
Departure Headway (Hd)	5.598	5.995	5.896	5.091
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	639	597	604	706
Service Time	3.66	4.057	3.974	3.143
HCM Lane V/C Ratio	0.377	0.389	0.146	0.644
HCM Control Delay	12	12.8	10	17
HCM Lane LOS	B	B	A	C
HCM 95th-tile Q	1.7	1.8	0.5	4.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	27	105	250	36	41	200	239	280	49	370	19
Future Volume (vph)	4	27	105	250	36	41	200	239	280	49	370	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		40	0		0	160		150	170		260
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.983				0.850			0.850
Flt Protected		0.994			0.963		0.950			0.950		
Satd. Flow (prot)	0	1718	1583	0	1551	0	1770	1863	1392	1641	1863	1583
Flt Permitted		0.994			0.963		0.950			0.950		
Satd. Flow (perm)	0	1718	1583	0	1551	0	1770	1863	1392	1641	1863	1583
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1727			235			457			1038	
Travel Time (s)		39.3			5.3			12.5			28.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	11%	2%	18%	6%	12%	2%	2%	16%	10%	2%	2%
Adj. Flow (vph)	4	29	114	272	39	45	217	260	304	53	402	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	114	0	356	0	217	260	304	53	402	21
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	332.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	27	105	250	36	41	200	239	280	49	370	19
Future Vol, veh/h	4	27	105	250	36	41	200	239	280	49	370	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	160	-	150	170	-	260
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	11	2	18	6	12	2	2	16	10	2	2
Mvmt Flow	4	29	114	272	39	45	217	260	304	53	402	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1396	1506	402	1284	1223	260	423	0	0	564	0	0
Stage 1	508	508	-	694	694	-	-	-	-	-	-	-
Stage 2	888	998	-	590	529	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.61	6.22	7.28	6.56	6.32	4.12	-	-	4.2	-	-
Critical Hdwy Stg 1	6.12	5.61	-	6.28	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.61	-	6.28	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.099	3.318	3.662	4.054	3.408	2.218	-	-	2.29	-	-
Pot Cap-1 Maneuver	119	116	648	~ 131	176	755	1136	-	-	969	-	-
Stage 1	547	524	-	408	438	-	-	-	-	-	-	-
Stage 2	338	310	-	467	521	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	72	89	648	~ 67	135	755	1136	-	-	969	-	-
Mov Cap-2 Maneuver	72	89	-	~ 67	135	-	-	-	-	-	-	-
Stage 1	443	495	-	330	354	-	-	-	-	-	-	-
Stage 2	229	251	-	342	492	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.4	$ 1629.6	2.5	1
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1136	-	-	86	648	81	969	-	-
HCM Lane V/C Ratio	0.191	-	-	0.392	0.176	4.388	0.055	-	-
HCM Control Delay (s)	8.9	-	-	71.6	11.$	1629.6	8.9	-	-
HCM Lane LOS	A	-	-	F	B	F	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	1.6	0.6	37.8	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	95	1	298	157	419	0	0	480	248
Future Volume (vph)	0	0	0	95	1	298	157	419	0	0	480	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		500	150		0	0		0
Storage Lanes	0		0	0		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850					0.954	
Flt Protected					0.953		0.950					
Satd. Flow (prot)	0	0	0	0	1633	1509	1703	1792	0	0	1710	0
Flt Permitted					0.953		0.950					
Satd. Flow (perm)	0	0	0	0	1633	1509	1703	1792	0	0	1710	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1324			1231			570			457	
Travel Time (s)		30.1			28.0			15.5			12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	11%	2%	7%	6%	6%	2%	2%	6%	6%
Adj. Flow (vph)	0	0	0	103	1	324	171	455	0	0	522	270
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	104	324	171	455	0	0	792	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	64.4%	ICU Level of Service C	
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	125.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	95	1	298	157	419	0	0	480	248
Future Vol, veh/h	0	0	0	95	1	298	157	419	0	0	480	248
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	11	2	7	6	6	2	2	6	6
Mvmt Flow	0	0	0	103	1	324	171	455	0	0	522	270
Number of Lanes	0	0	0	0	1	1	1	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	20.1	36.4	253.4
HCM LOS	C	E	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	99%	0%	0%
Vol Thru, %	0%	100%	1%	0%	66%
Vol Right, %	0%	0%	0%	100%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	157	419	96	298	728
LT Vol	157	0	95	0	0
Through Vol	0	419	1	0	480
RT Vol	0	0	0	298	248
Lane Flow Rate	171	455	104	324	791
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.353	0.879	0.238	0.619	1.499
Departure Headway (Hd)	8.112	7.595	8.998	7.597	6.82
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	447	483	402	479	538
Service Time	5.812	5.295	6.698	5.297	4.861
HCM Lane V/C Ratio	0.383	0.942	0.259	0.676	1.47
HCM Control Delay	15.2	44.3	14.5	21.9	253.4
HCM Lane LOS	C	E	B	C	F
HCM 95th-tile Q	1.6	9.4	0.9	4.1	40.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	1	87	0	0	0	0	390	143	237	236	0
Future Volume (vph)	187	1	87	0	0	0	0	390	143	237	236	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		400	0		0	0		0	150		0
Storage Lanes	0		1	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.964				
Flt Protected		0.953								0.950		
Satd. Flow (prot)	0	1647	1455	0	0	0	0	1748	0	1671	1810	0
Flt Permitted		0.953								0.950		
Satd. Flow (perm)	0	1647	1455	0	0	0	0	1748	0	1671	1810	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1380			1074			792			570	
Travel Time (s)		31.4			24.4			21.6			15.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	2%	11%	2%	2%	2%	2%	4%	7%	8%	5%	2%
Adj. Flow (vph)	203	1	95	0	0	0	0	424	155	258	257	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	204	95	0	0	0	0	579	0	258	257	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	35.7
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	187	1	87	0	0	0	0	390	143	237	236	0
Future Vol, veh/h	187	1	87	0	0	0	0	390	143	237	236	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	2	11	2	2	2	2	4	7	8	5	2
Mvmt Flow	203	1	95	0	0	0	0	424	155	258	257	0
Number of Lanes	0	1	1	0	0	0	0	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	15.4	63.5	16.2
HCM LOS	C	F	C

Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	99%	0%	100%	0%
Vol Thru, %	73%	1%	0%	0%	100%
Vol Right, %	27%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	533	188	87	237	236
LT Vol	0	187	0	237	0
Through Vol	390	1	0	0	236
RT Vol	143	0	87	0	0
Lane Flow Rate	579	204	95	258	257
Geometry Grp	6	7	7	7	7
Degree of Util (X)	1.004	0.458	0.176	0.51	0.468
Departure Headway (Hd)	6.237	8.065	6.697	7.132	6.569
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	579	445	533	502	546
Service Time	4.297	5.841	4.472	4.911	4.348
HCM Lane V/C Ratio	1	0.458	0.178	0.514	0.471
HCM Control Delay	63.5	17.5	10.9	17.2	15.1
HCM Lane LOS	F	C	B	C	C
HCM 95th-tile Q	14.8	2.4	0.6	2.9	2.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	6	23	0	9	32	21	284	3	38	219	170
Future Volume (vph)	219	6	23	0	9	32	21	284	3	38	219	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987			0.895			0.999			0.946	
Flt Protected		0.958						0.997			0.996	
Satd. Flow (prot)	0	1761	0	0	1162	0	0	1806	0	0	1658	0
Flt Permitted		0.958						0.997			0.996	
Satd. Flow (perm)	0	1761	0	0	1162	0	0	1806	0	0	1658	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2253			1120			2586			792	
Travel Time (s)		61.4			30.5			70.5			21.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	59%	2%	5%	2%	52%	5%	2%
Adj. Flow (vph)	238	7	25	0	10	35	23	309	3	41	238	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	270	0	0	45	0	0	335	0	0	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.7%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	21.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	219	6	23	0	9	32	21	284	3	38	219	170
Future Vol, veh/h	219	6	23	0	9	32	21	284	3	38	219	170
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	59	2	5	2	52	5	2
Mvmt Flow	238	7	25	0	10	35	23	309	3	41	238	185
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.5	10.3	15.7	29.4
HCM LOS	C	B	C	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	88%	0%	9%
Vol Thru, %	92%	2%	22%	51%
Vol Right, %	1%	9%	78%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	308	248	41	427
LT Vol	21	219	0	38
Through Vol	284	6	9	219
RT Vol	3	23	32	170
Lane Flow Rate	335	270	45	464
Geometry Grp	1	1	1	1
Degree of Util (X)	0.542	0.482	0.082	0.797
Departure Headway (Hd)	5.823	6.441	6.662	6.179
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	613	555	541	580
Service Time	3.911	4.535	4.662	4.257
HCM Lane V/C Ratio	0.546	0.486	0.083	0.8
HCM Control Delay	15.7	15.5	10.3	29.4
HCM Lane LOS	C	C	B	D
HCM 95th-tile Q	3.2	2.6	0.3	7.7

Intersection	
Int Delay, s/veh	139.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	19	108	172	26	26	206	246	196	29	382	19
Future Vol, veh/h	4	19	108	172	26	26	206	246	196	29	382	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	160	-	150	170	-	260
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	11	2	18	6	12	2	2	16	10	2	2
Mvmt Flow	4	21	117	187	28	28	224	267	213	32	415	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1329	1407	415	1274	1215	267	436	0	0	480	0	0
Stage 1	479	479	-	715	715	-	-	-	-	-	-	-
Stage 2	850	928	-	559	500	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.61	6.22	7.28	6.56	6.32	4.12	-	-	4.2	-	-
Critical Hdwy Stg 1	6.12	5.61	-	6.28	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.61	-	6.28	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.099	3.318	3.662	4.054	3.408	2.218	-	-	2.29	-	-
Pot Cap-1 Maneuver	132	133	637	~ 133	178	748	1124	-	-	1042	-	-
Stage 1	568	540	-	397	429	-	-	-	-	-	-	-
Stage 2	355	335	-	486	537	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	89	103	637	~ 76	138	748	1124	-	-	1042	-	-
Mov Cap-2 Maneuver	89	103	-	~ 76	138	-	-	-	-	-	-	-
Stage 1	455	523	-	318	344	-	-	-	-	-	-	-
Stage 2	251	268	-	369	520	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19	$ 871.3	2.9	0.6
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1124	-	-	100	637	90	1042	-	-
HCM Lane V/C Ratio	0.199	-	-	0.25	0.184	2.705	0.03	-	-
HCM Control Delay (s)	9	-	-	52.6	11.9	$ 871.3	8.6	-	-
HCM Lane LOS	A	-	-	F	B	F	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	0.9	0.7	23.1	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	88.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	95	1	266	157	380	0	0	438	224
Future Vol, veh/h	0	0	0	95	1	266	157	380	0	0	438	224
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	11	2	7	6	6	2	2	6	6
Mvmt Flow	0	0	0	103	1	289	171	413	0	0	476	243
Number of Lanes	0	0	0	0	1	1	1	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	17.3	26.2	178
HCM LOS	C	D	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	99%	0%	0%
Vol Thru, %	0%	100%	1%	0%	66%
Vol Right, %	0%	0%	0%	100%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	157	380	96	266	662
LT Vol	157	0	95	0	0
Through Vol	0	380	1	0	438
RT Vol	0	0	0	266	224
Lane Flow Rate	171	413	104	289	720
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.346	0.78	0.236	0.545	1.322
Departure Headway (Hd)	7.764	7.249	8.714	7.319	6.614
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	466	504	414	497	554
Service Time	5.464	4.949	6.414	5.019	4.651
HCM Lane V/C Ratio	0.367	0.819	0.251	0.581	1.3
HCM Control Delay	14.5	31.1	14.1	18.4	178
HCM Lane LOS	B	D	B	C	F
HCM 95th-tile Q	1.5	7	0.9	3.2	30.6

Intersection	
Intersection Delay, s/veh	29.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	162	1	87	0	0	0	0	377	143	208	225	0
Future Vol, veh/h	162	1	87	0	0	0	0	377	143	208	225	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	2	11	2	2	2	2	4	7	8	5	2
Mvmt Flow	176	1	95	0	0	0	0	410	155	226	245	0
Number of Lanes	0	1	1	0	0	0	0	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	14	49.9	14.5
HCM LOS	B	E	B

Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	99%	0%	100%	0%
Vol Thru, %	72%	1%	0%	0%	100%
Vol Right, %	28%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	520	163	87	208	225
LT Vol	0	162	0	208	0
Through Vol	377	1	0	0	225
RT Vol	143	0	87	0	0
Lane Flow Rate	565	177	95	226	245
Geometry Grp	6	7	7	7	7
Degree of Util (X)	0.949	0.389	0.172	0.436	0.433
Departure Headway (Hd)	6.044	7.908	6.544	6.935	6.374
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	599	454	546	518	563
Service Time	4.094	5.675	4.31	4.698	4.135
HCM Lane V/C Ratio	0.943	0.39	0.174	0.436	0.435
HCM Control Delay	49.9	15.7	10.7	15	14
HCM Lane LOS	E	C	B	B	B
HCM 95th-tile Q	12.7	1.8	0.6	2.2	2.2

Intersection	
Intersection Delay, s/veh	19.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	214	6	23	0	9	32	21	276	3	38	211	166
Future Vol, veh/h	214	6	23	0	9	32	21	276	3	38	211	166
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	59	2	5	2	52	5	2
Mvmt Flow	233	7	25	0	10	35	23	300	3	41	229	180
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15	10.1	15	26.8
HCM LOS	B	B	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	88%	0%	9%
Vol Thru, %	92%	2%	22%	51%
Vol Right, %	1%	9%	78%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	300	243	41	415
LT Vol	21	214	0	38
Through Vol	276	6	9	211
RT Vol	3	23	32	166
Lane Flow Rate	326	264	45	451
Geometry Grp	1	1	1	1
Degree of Util (X)	0.522	0.467	0.081	0.768
Departure Headway (Hd)	5.759	6.365	6.536	6.126
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	620	563	551	586
Service Time	3.842	4.453	4.536	4.199
HCM Lane V/C Ratio	0.526	0.469	0.082	0.77
HCM Control Delay	15	15	10.1	26.8
HCM Lane LOS	B	B	B	D
HCM 95th-tile Q	3	2.5	0.3	7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	35	141	211	37	46	119	355	259	36	260	21
Future Volume (vph)	16	35	141	211	37	46	119	355	259	36	260	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		40	0		0	160		150	170		260
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.979				0.850			0.850
Flt Protected		0.985			0.965		0.950			0.950		
Satd. Flow (prot)	0	1786	1583	0	1561	0	1770	1863	1392	1583	1863	1583
Flt Permitted		0.985			0.965		0.950			0.950		
Satd. Flow (perm)	0	1786	1583	0	1561	0	1770	1863	1392	1583	1863	1583
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		2229			214			446			1204	
Travel Time (s)		50.7			4.9			12.2			32.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	6%	2%	18%	5%	9%	2%	2%	16%	14%	2%	2%
Adj. Flow (vph)	17	38	153	229	40	50	129	386	282	39	283	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	153	0	319	0	129	386	282	39	283	23
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	160.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	35	141	211	37	46	119	355	259	36	260	21
Future Vol, veh/h	16	35	141	211	37	46	119	355	259	36	260	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	160	-	150	170	-	260
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	6	2	18	5	9	2	2	16	14	2	2
Mvmt Flow	17	38	153	229	40	50	129	386	282	39	283	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1191	1287	283	1112	1028	386	306	0	0	668	0	0
Stage 1	361	361	-	644	644	-	-	-	-	-	-	-
Stage 2	830	926	-	468	384	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.56	6.22	7.28	6.55	6.29	4.12	-	-	4.24	-	-
Critical Hdwy Stg 1	6.12	5.56	-	6.28	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.56	-	6.28	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.054	3.318	3.662	4.045	3.381	2.218	-	-	2.326	-	-
Pot Cap-1 Maneuver	164	161	756	~ 173	231	647	1255	-	-	868	-	-
Stage 1	657	619	-	436	463	-	-	-	-	-	-	-
Stage 2	364	342	-	546	606	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	114	138	756	~ 97	198	647	1255	-	-	868	-	-
Mov Cap-2 Maneuver	114	138	-	~ 97	198	-	-	-	-	-	-	-
Stage 1	589	591	-	391	415	-	-	-	-	-	-	-
Stage 2	272	307	-	389	579	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22	$ 818.3	1.3	1.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1255	-	-	129	756	121	868	-	-
HCM Lane V/C Ratio	0.103	-	-	0.43	0.203	2.641	0.045	-	-
HCM Control Delay (s)	8.2	-	-	52.4	11	$ 818.3	9.3	-	-
HCM Lane LOS	A	-	-	F	B	F	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.9	0.8	29	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	116	2	248	110	491	0	0	422	191
Future Volume (vph)	0	0	0	116	2	248	110	491	0	0	422	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		500	150		0	0		0
Storage Lanes	0		0	0		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850					0.958	
Flt Protected					0.953		0.950					
Satd. Flow (prot)	0	0	0	0	1663	1495	1770	1776	0	0	1723	0
Flt Permitted					0.953		0.950					
Satd. Flow (perm)	0	0	0	0	1663	1495	1770	1776	0	0	1723	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1324			1231			570			446	
Travel Time (s)		30.1			28.0			15.5			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	9%	2%	8%	2%	7%	2%	2%	5%	7%
Adj. Flow (vph)	0	0	0	126	2	270	120	534	0	0	459	208
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	128	270	120	534	0	0	667	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.1%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	86.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	116	2	248	110	491	0	0	422	191
Future Vol, veh/h	0	0	0	116	2	248	110	491	0	0	422	191
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	9	2	8	2	7	2	2	5	7
Mvmt Flow	0	0	0	126	2	270	120	534	0	0	459	208
Number of Lanes	0	0	0	0	1	1	1	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	17	60.3	153.4
HCM LOS	C	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	98%	0%	0%
Vol Thru, %	0%	100%	2%	0%	69%
Vol Right, %	0%	0%	0%	100%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	491	118	248	613
LT Vol	110	0	116	0	0
Through Vol	0	491	2	0	422
RT Vol	0	0	0	248	191
Lane Flow Rate	120	534	128	270	666
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.241	1.015	0.295	0.521	1.259
Departure Headway (Hd)	7.663	7.236	8.776	7.417	6.801
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	471	507	412	491	533
Service Time	5.363	4.936	6.476	5.117	4.849
HCM Lane V/C Ratio	0.255	1.053	0.311	0.55	1.25
HCM Control Delay	12.8	70.9	15.1	17.9	153.4
HCM Lane LOS	B	F	C	C	F
HCM 95th-tile Q	0.9	14.2	1.2	3	26.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	298	1	164	0	0	0	0	303	120	239	298	0
Future Volume (vph)	298	1	164	0	0	0	0	303	120	239	298	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		400	0		0	0		0	150		0
Storage Lanes	0		1	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.962				
Flt Protected		0.953								0.950		
Satd. Flow (prot)	0	1725	1524	0	0	0	0	1763	0	1687	1792	0
Flt Permitted		0.953								0.950		
Satd. Flow (perm)	0	1725	1524	0	0	0	0	1763	0	1687	1792	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1380			1074			792			570	
Travel Time (s)		31.4			24.4			21.6			15.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	2%	6%	2%	2%	2%	2%	2%	8%	7%	6%	2%
Adj. Flow (vph)	324	1	178	0	0	0	0	329	130	260	324	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	325	178	0	0	0	0	459	0	260	324	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	63.1%	ICU Level of Service B	
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	28.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	298	1	164	0	0	0	0	303	120	239	298	0
Future Vol, veh/h	298	1	164	0	0	0	0	303	120	239	298	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	5	2	6	2	2	2	2	2	8	7	6	2
Mvmt Flow	324	1	178	0	0	0	0	329	130	260	324	0
Number of Lanes	0	1	1	0	0	0	0	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	23.6	42.3	21.6
HCM LOS	C	E	C

Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	72%	0%	0%	0%	100%
Vol Right, %	28%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	423	299	164	239	298
LT Vol	0	298	0	239	0
Through Vol	303	1	0	0	298
RT Vol	120	0	164	0	0
Lane Flow Rate	460	325	178	260	324
Geometry Grp	6	7	7	7	7
Degree of Util (X)	0.881	0.729	0.332	0.564	0.655
Departure Headway (Hd)	7.002	8.079	6.698	7.809	7.278
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	520	452	533	465	499
Service Time	5.002	5.779	4.497	5.526	4.995
HCM Lane V/C Ratio	0.885	0.719	0.334	0.559	0.649
HCM Control Delay	42.3	29.6	12.8	20.2	22.8
HCM Lane LOS	E	D	B	C	C
HCM 95th-tile Q	9.8	5.8	1.4	3.4	4.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	11	31	11	17	53	27	208	7	47	229	170
Future Volume (vph)	181	11	31	11	17	53	27	208	7	47	229	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.911			0.996			0.949	
Flt Protected		0.961			0.993			0.995			0.995	
Satd. Flow (prot)	0	1756	0	0	1367	0	0	1846	0	0	1688	0
Flt Permitted		0.961			0.993			0.995			0.995	
Satd. Flow (perm)	0	1756	0	0	1367	0	0	1846	0	0	1688	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2253			1120			2586			792	
Travel Time (s)		61.4			30.5			70.5			21.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	38%	2%	2%	2%	43%	2%	2%
Adj. Flow (vph)	197	12	34	12	18	58	29	226	8	51	249	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	243	0	0	88	0	0	263	0	0	485	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.5%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	20.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	181	11	31	11	17	53	27	208	7	47	229	170
Future Vol, veh/h	181	11	31	11	17	53	27	208	7	47	229	170
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	38	2	2	2	43	2	2
Mvmt Flow	197	12	34	12	18	58	29	226	8	51	249	185
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.2	10.7	13.4	28.9
HCM LOS	B	B	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	81%	14%	11%
Vol Thru, %	86%	5%	21%	51%
Vol Right, %	3%	14%	65%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	242	223	81	446
LT Vol	27	181	11	47
Through Vol	208	11	17	229
RT Vol	7	31	53	170
Lane Flow Rate	263	242	88	485
Geometry Grp	1	1	1	1
Degree of Util (X)	0.429	0.428	0.158	0.801
Departure Headway (Hd)	5.871	6.36	6.46	5.951
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	608	560	558	606
Service Time	3.965	4.458	4.46	4.028
HCM Lane V/C Ratio	0.433	0.432	0.158	0.8
HCM Control Delay	13.4	14.2	10.7	28.9
HCM Lane LOS	B	B	B	D
HCM 95th-tile Q	2.1	2.1	0.6	7.9

Intersection	
Int Delay, s/veh	85.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	32	141	160	34	40	119	355	203	30	260	21
Future Vol, veh/h	16	32	141	160	34	40	119	355	203	30	260	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	160	-	150	170	-	260
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	6	2	18	5	9	2	2	16	14	2	2
Mvmt Flow	17	35	153	174	37	43	129	386	221	33	283	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1144	1214	283	1099	1016	386	306	0	0	607	0	0
Stage 1	349	349	-	644	644	-	-	-	-	-	-	-
Stage 2	795	865	-	455	372	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.56	6.22	7.28	6.55	6.29	4.12	-	-	4.24	-	-
Critical Hdwy Stg 1	6.12	5.56	-	6.28	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.56	-	6.28	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.054	3.318	3.662	4.045	3.381	2.218	-	-	2.326	-	-
Pot Cap-1 Maneuver	177	178	756	177	235	647	1255	-	-	915	-	-
Stage 1	667	626	-	436	463	-	-	-	-	-	-	-
Stage 2	381	365	-	555	614	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	128	154	756	~ 105	203	647	1255	-	-	915	-	-
Mov Cap-2 Maneuver	128	154	-	~ 105	203	-	-	-	-	-	-	-
Stage 1	598	603	-	391	415	-	-	-	-	-	-	-
Stage 2	290	327	-	402	592	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.3	$ 493.2	1.4	0.9
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1255	-	-	144	756	133	915	-	-
HCM Lane V/C Ratio	0.103	-	-	0.362	0.203	1.912	0.036	-	-
HCM Control Delay (s)	8.2	-	-	43.6	11$	493.2	9.1	-	-
HCM Lane LOS	A	-	-	E	B	F	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.5	0.8	19.9	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	60
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	116	2	222	110	461	0	0	389	173
Future Vol, veh/h	0	0	0	116	2	222	110	461	0	0	389	173
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	9	2	8	2	7	2	2	5	7
Mvmt Flow	0	0	0	126	2	241	120	501	0	0	423	188
Number of Lanes	0	0	0	0	1	1	1	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	15.5	44.2	103.1
HCM LOS	C	E	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	98%	0%	0%
Vol Thru, %	0%	100%	2%	0%	69%
Vol Right, %	0%	0%	0%	100%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	461	118	222	562
LT Vol	110	0	116	0	0
Through Vol	0	461	2	0	389
RT Vol	0	0	0	222	173
Lane Flow Rate	120	501	128	241	611
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.238	0.938	0.293	0.462	1.127
Departure Headway (Hd)	7.414	6.988	8.546	7.192	6.643
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	488	521	423	504	550
Service Time	5.114	4.688	6.246	4.892	4.682
HCM Lane V/C Ratio	0.246	0.962	0.303	0.478	1.111
HCM Control Delay	12.4	51.8	14.7	15.9	103.1
HCM Lane LOS	B	F	B	C	F
HCM 95th-tile Q	0.9	11.6	1.2	2.4	20

Intersection	
Intersection Delay, s/veh	24.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	278	1	164	0	0	0	0	293	120	215	289	0
Future Vol, veh/h	278	1	164	0	0	0	0	293	120	215	289	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	5	2	6	2	2	2	2	2	8	7	6	2
Mvmt Flow	302	1	178	0	0	0	0	318	130	234	314	0
Number of Lanes	0	1	1	0	0	0	0	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	20.3	36.4	19.2
HCM LOS	C	E	C

Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	71%	0%	0%	0%	100%
Vol Right, %	29%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	413	279	164	215	289
LT Vol	0	278	0	215	0
Through Vol	293	1	0	0	289
RT Vol	120	0	164	0	0
Lane Flow Rate	449	303	178	234	314
Geometry Grp	6	7	7	7	7
Degree of Util (X)	0.842	0.662	0.326	0.491	0.613
Departure Headway (Hd)	6.752	7.863	6.584	7.559	7.03
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	534	458	542	474	509
Service Time	4.832	5.646	4.366	5.356	4.826
HCM Lane V/C Ratio	0.841	0.662	0.328	0.494	0.617
HCM Control Delay	36.4	24.9	12.6	17.5	20.5
HCM Lane LOS	E	C	B	C	C
HCM 95th-tile Q	8.7	4.7	1.4	2.7	4.1

Intersection	
Intersection Delay, s/veh	19.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	178	11	31	11	17	53	27	202	7	47	223	167
Future Vol, veh/h	178	11	31	11	17	53	27	202	7	47	223	167
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	38	2	2	2	43	2	2
Mvmt Flow	193	12	34	12	18	58	29	220	8	51	242	182
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.9	10.6	13	27
HCM LOS	B	B	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	81%	14%	11%
Vol Thru, %	86%	5%	21%	51%
Vol Right, %	3%	14%	65%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	236	220	81	437
LT Vol	27	178	11	47
Through Vol	202	11	17	223
RT Vol	7	31	53	167
Lane Flow Rate	257	239	88	475
Geometry Grp	1	1	1	1
Degree of Util (X)	0.415	0.419	0.156	0.78
Departure Headway (Hd)	5.826	6.301	6.376	5.915
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	613	567	566	608
Service Time	3.916	4.392	4.376	3.989
HCM Lane V/C Ratio	0.419	0.422	0.155	0.781
HCM Control Delay	13	13.9	10.6	27
HCM Lane LOS	B	B	B	D
HCM 95th-tile Q	2	2.1	0.5	7.4

Intersection	
Int Delay, s/veh	120

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	17	220	58	25	12	397	270	70	12	434	59
Future Vol, veh/h	34	17	220	58	25	12	397	270	70	12	434	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	160	-	150	170	-	260
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	18	239	63	27	13	432	293	76	13	472	64

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1713	1731	472	1816	1719	293	536	0	0	369	0	0
Stage 1	498	498	-	1157	1157	-	-	-	-	-	-	-
Stage 2	1215	1233	-	659	562	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	71	88	592	~ 60	90	746	1032	-	-	1190	-	-
Stage 1	554	544	-	239	271	-	-	-	-	-	-	-
Stage 2	222	249	-	453	510	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 29	51	592	~ 18	52	746	1032	-	-	1190	-	-
Mov Cap-2 Maneuver	~ 29	51	-	~ 18	52	-	-	-	-	-	-	-
Stage 1	322	538	-	139	157	-	-	-	-	-	-	-
Stage 2	105	145	-	258	504	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	118.7	$ 1645.4	5.9	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1032	-	-	34	592	26	1190	-	-
HCM Lane V/C Ratio	0.418	-	-	1.63	0.404	3.972	0.011	-	-
HCM Control Delay (s)	11	-	-	$ 565.5	15	$ 1645.4	8.1	-	-
HCM Lane LOS	B	-	-	F	C	F	A	-	-
HCM 95th %tile Q(veh)	2.1	-	-	6.1	1.9	12.7	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	118.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	116	1	275	176	462	0	0	488	224
Future Vol, veh/h	0	0	0	116	1	275	176	462	0	0	488	224
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	9	2	2	6	2	2	2	2	2
Mvmt Flow	0	0	0	126	1	299	191	502	0	0	530	243
Number of Lanes	0	0	0	0	1	1	1	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	18.7	46.5	238
HCM LOS	C	E	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	99%	0%	0%
Vol Thru, %	0%	100%	1%	0%	69%
Vol Right, %	0%	0%	0%	100%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	462	117	275	712
LT Vol	176	0	116	0	0
Through Vol	0	462	1	0	488
RT Vol	0	0	0	275	224
Lane Flow Rate	191	502	127	299	774
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.395	0.958	0.292	0.577	1.463
Departure Headway (Hd)	8.046	7.459	8.971	7.603	6.807
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	450	492	403	478	534
Service Time	5.746	5.159	6.671	5.303	4.846
HCM Lane V/C Ratio	0.424	1.02	0.315	0.626	1.449
HCM Control Delay	15.9	58.2	15.3	20.2	238
HCM Lane LOS	C	F	C	C	F
HCM 95th-tile Q	1.9	12	1.2	3.6	38

Intersection	
Intersection Delay, s/veh	87.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	166	1	93	0	0	0	0	474	206	203	400	0
Future Vol, veh/h	166	1	93	0	0	0	0	474	206	203	400	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	11	2	2	2	2	7	2	2	5	2
Mvmt Flow	180	1	101	0	0	0	0	515	224	221	435	0
Number of Lanes	0	1	1	0	0	0	0	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	15.1	170.4	24.6
HCM LOS	C	F	C

Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	99%	0%	100%	0%
Vol Thru, %	70%	1%	0%	0%	100%
Vol Right, %	30%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	680	167	93	203	400
LT Vol	0	166	0	203	0
Through Vol	474	1	0	0	400
RT Vol	206	0	93	0	0
Lane Flow Rate	739	182	101	221	435
Geometry Grp	6	7	7	7	7
Degree of Util (X)	1.306	0.405	0.192	0.422	0.777
Departure Headway (Hd)	6.362	8.556	7.317	7.283	6.822
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	577	423	493	499	535
Service Time	4.39	6.256	5.017	4.983	4.522
HCM Lane V/C Ratio	1.281	0.43	0.205	0.443	0.813
HCM Control Delay	170.4	17	11.7	15.2	29.4
HCM Lane LOS	F	C	B	C	D
HCM 95th-tile Q	30.6	1.9	0.7	2.1	7.1

Intersection	
Intersection Delay, s/veh	43.3
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	236	6	23	0	9	38	21	406	3	41	263	189
Future Vol, veh/h	236	6	23	0	9	38	21	406	3	41	263	189
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	53	2	2	2	49	2	2
Mvmt Flow	257	7	25	0	10	41	23	441	3	45	286	205
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	20.1	11.8	33.5	67.4
HCM LOS	C	B	D	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	89%	0%	8%
Vol Thru, %	94%	2%	19%	53%
Vol Right, %	1%	9%	81%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	430	265	47	493
LT Vol	21	236	0	41
Through Vol	406	6	9	263
RT Vol	3	23	38	189
Lane Flow Rate	467	288	51	536
Geometry Grp	1	1	1	1
Degree of Util (X)	0.83	0.583	0.11	1.008
Departure Headway (Hd)	6.391	7.285	7.876	6.774
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	566	493	458	536
Service Time	4.461	5.358	5.876	4.841
HCM Lane V/C Ratio	0.825	0.584	0.111	1
HCM Control Delay	33.5	20.1	11.8	67.4
HCM Lane LOS	D	C	B	F
HCM 95th-tile Q	8.5	3.7	0.4	14.4

Intersection	
Int Delay, s/veh	66.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	27	273	60	29	25	239	424	89	9	325	42
Future Vol, veh/h	49	27	273	60	29	25	239	424	89	9	325	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	160	-	150	170	-	260
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	29	297	65	32	27	260	461	97	10	353	46

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1432	1451	353	1540	1400	461	399	0	0	558	0	0
Stage 1	373	373	-	981	981	-	-	-	-	-	-	-
Stage 2	1059	1078	-	559	419	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	112	131	691	94	140	600	1160	-	-	1013	-	-
Stage 1	648	618	-	300	328	-	-	-	-	-	-	-
Stage 2	271	295	-	513	590	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	69	101	691	~ 34	108	600	1160	-	-	1013	-	-
Mov Cap-2 Maneuver	69	101	-	~ 34	108	-	-	-	-	-	-	-
Stage 1	503	612	-	233	255	-	-	-	-	-	-	-
Stage 2	176	229	-	276	584	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	57.5	$ 734.3	2.9	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1160	-	-	78	691	55	1013	-	-
HCM Lane V/C Ratio	0.224	-	-	1.059	0.429	2.253	0.01	-	-
HCM Control Delay (s)	9	-	-	213.4	14.1	$ 734.3	8.6	-	-
HCM Lane LOS	A	-	-	F	B	F	A	-	-
HCM 95th %tile Q(veh)	0.9	-	-	5.9	2.2	12.4	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	109.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	182	2	222	120	530	0	0	477	182
Future Vol, veh/h	0	0	0	182	2	222	120	530	0	0	477	182
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	5	2	2	8	2	2	2	2	2
Mvmt Flow	0	0	0	198	2	241	130	576	0	0	518	198
Number of Lanes	0	0	0	0	1	1	1	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	17.6	83.2	191.8
HCM LOS	C	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	99%	0%	0%
Vol Thru, %	0%	100%	1%	0%	72%
Vol Right, %	0%	0%	0%	100%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	530	184	222	659
LT Vol	120	0	182	0	0
Through Vol	0	530	2	0	477
RT Vol	0	0	0	222	182
Lane Flow Rate	130	576	200	241	716
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.272	1.106	0.452	0.462	1.352
Departure Headway (Hd)	7.986	7.365	8.89	7.594	6.999
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	453	495	408	478	523
Service Time	5.686	5.065	6.59	5.294	4.999
HCM Lane V/C Ratio	0.287	1.164	0.49	0.504	1.369
HCM Control Delay	13.6	99	18.7	16.6	191.8
HCM Lane LOS	B	F	C	C	F
HCM 95th-tile Q	1.1	17.8	2.3	2.4	31

Intersection	
Intersection Delay, s/veh	56.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	283	1	184	0	0	0	0	369	158	230	429	0
Future Vol, veh/h	283	1	184	0	0	0	0	369	158	230	429	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	5	2	2	2	2	2	6	2	2	2
Mvmt Flow	308	1	200	0	0	0	0	401	172	250	466	0
Number of Lanes	0	1	1	0	0	0	0	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	23.1	105.6	41.1
HCM LOS	C	F	E

Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	70%	0%	0%	0%	100%
Vol Right, %	30%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	527	284	184	230	429
LT Vol	0	283	0	230	0
Through Vol	369	1	0	0	429
RT Vol	158	0	184	0	0
Lane Flow Rate	573	309	200	250	466
Geometry Grp	6	7	7	7	7
Degree of Util (X)	1.128	0.7	0.387	0.534	0.931
Departure Headway (Hd)	7.092	8.484	7.246	7.987	7.472
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	516	429	500	455	490
Service Time	5.128	6.184	4.946	5.687	5.172
HCM Lane V/C Ratio	1.11	0.72	0.4	0.549	0.951
HCM Control Delay	105.6	28.7	14.4	19.5	52.7
HCM Lane LOS	F	D	B	C	F
HCM 95th-tile Q	19.2	5.3	1.8	3.1	11.1

Intersection	
Intersection Delay, s/veh	60.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	200	11	31	11	17	55	27	287	7	51	356	187
Future Vol, veh/h	200	11	31	11	17	55	27	287	7	51	356	187
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	36	2	2	2	39	2	2
Mvmt Flow	217	12	34	12	18	60	29	312	8	55	387	203
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	17.8	12.3	19.5	106.8
HCM LOS	C	B	C	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	83%	13%	9%
Vol Thru, %	89%	5%	20%	60%
Vol Right, %	2%	13%	66%	31%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	321	242	83	594
LT Vol	27	200	11	51
Through Vol	287	11	17	356
RT Vol	7	31	55	187
Lane Flow Rate	349	263	90	646
Geometry Grp	1	1	1	1
Degree of Util (X)	0.611	0.509	0.18	1.141
Departure Headway (Hd)	6.619	7.387	7.656	6.362
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	548	492	472	568
Service Time	4.619	5.387	5.656	4.434
HCM Lane V/C Ratio	0.637	0.535	0.191	1.137
HCM Control Delay	19.5	17.8	12.3	106.8
HCM Lane LOS	C	C	B	F
HCM 95th-tile Q	4.1	2.8	0.6	21.2

Intersection												
Int Delay, s/veh	2.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	39	214	312	50	53	386	256	356	66	411	59
Future Vol, veh/h	34	39	214	312	50	53	386	256	356	66	411	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	160	-	150	170	-	260
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	8	2	14	4	9	2	2	13	8	2	2
Mvmt Flow	37	42	233	339	54	58	420	278	387	72	447	64

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1959	2096	447	1879	1773	278	511	0	0	665	0	0
Stage 1	591	591	-	1118	1118	-	-	-	-	-	-	-
Stage 2	1368	1505	-	761	655	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.58	6.22	7.24	6.54	6.29	4.12	-	-	4.18	-	-
Critical Hdwy Stg 1	6.12	5.58	-	6.24	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.58	-	6.24	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.072	3.318	3.626	4.036	3.381	2.218	-	-	2.272	-	-
Pot Cap-1 Maneuver	48	50	612	~ 51	82	744	1054	-	-	896	-	-
Stage 1	493	485	-	~ 238	280	-	-	-	-	-	-	-
Stage 2	181	179	-	380	460	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 28	612	-	~ 45	744	1054	-	-	896	-	-
Mov Cap-2 Maneuver	-	~ 28	-	-	~ 45	-	-	-	-	-	-	-
Stage 1	297	446	-	~ 143	169	-	-	-	-	-	-	-
Stage 2	68	108	-	~ 196	423	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			4.1	1.2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1054	-	-	-	612	-	896	-	-
HCM Lane V/C Ratio	0.398	-	-	-	0.38	-	0.08	-	-
HCM Control Delay (s)	10.7	-	-	-	14.4	-	9.4	-	-
HCM Lane LOS	B	-	-	-	B	-	A	-	-
HCM 95th %tile Q(veh)	1.9	-	-	-	1.8	-	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	271.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	116	1	394	176	603	0	0	633	306
Future Vol, veh/h	0	0	0	116	1	394	176	603	0	0	633	306
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	9	2	5	6	5	2	2	4	5
Mvmt Flow	0	0	0	126	1	428	191	655	0	0	688	333
Number of Lanes	0	0	0	0	1	1	1	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	35.1	157.8	494.8
HCM LOS	E	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	99%	0%	0%
Vol Thru, %	0%	100%	1%	0%	67%
Vol Right, %	0%	0%	0%	100%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	603	117	394	939
LT Vol	176	0	116	0	0
Through Vol	0	603	1	0	633
RT Vol	0	0	0	394	306
Lane Flow Rate	191	655	127	428	1021
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.422	1.353	0.294	0.833	2.044
Departure Headway (Hd)	9.224	8.682	9.691	8.3	7.599
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	394	426	374	441	490
Service Time	6.924	6.382	7.391	6	5.599
HCM Lane V/C Ratio	0.485	1.538	0.34	0.971	2.084
HCM Control Delay	18.5	198.5	16.4	40.7	494.8
HCM Lane LOS	C	F	C	E	F
HCM 95th-tile Q	2	26.3	1.2	8	67.2

Intersection	
Intersection Delay, s/veh	25.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	260	1	93	0	0	0	0	521	206	307	441	0
Future Vol, veh/h	260	1	93	0	0	0	0	521	206	307	441	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	8	2	11	2	2	2	2	2	7	8	6	2
Mvmt Flow	283	1	101	0	0	0	0	566	224	334	479	0
Number of Lanes	0	1	1	0	0	0	0	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	23.3	260.1	43
HCM LOS	C	F	E

Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	72%	0%	0%	0%	100%
Vol Right, %	28%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	727	261	93	307	441
LT Vol	0	260	0	307	0
Through Vol	521	1	0	0	441
RT Vol	206	0	93	0	0
Lane Flow Rate	790	284	101	334	479
Geometry Grp	6	7	7	7	7
Degree of Util (X)	1.514	0.656	0.197	0.697	0.931
Departure Headway (Hd)	6.898	8.988	7.634	8.208	7.655
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	529	406	473	444	479
Service Time	4.927	6.688	5.334	5.908	5.355
HCM Lane V/C Ratio	1.493	0.7	0.214	0.752	1
HCM Control Delay	260.1	27.3	12.2	27.7	53.6
HCM Lane LOS	F	D	B	D	F
HCM 95th-tile Q	40.6	4.5	0.7	5.2	10.9

Intersection	
Intersection Delay, s/veh	66.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	252	6	23	0	9	38	21	437	3	41	290	203
Future Vol, veh/h	252	6	23	0	9	38	21	437	3	41	290	203
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	5	2	2	2	2	50	2	3	2	58	3	2
Mvmt Flow	274	7	25	0	10	41	23	475	3	45	315	221
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	22.4	12.4	42	114.6
HCM LOS	C	B	E	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	90%	0%	8%
Vol Thru, %	95%	2%	19%	54%
Vol Right, %	1%	8%	81%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	461	281	47	534
LT Vol	21	252	0	41
Through Vol	437	6	9	290
RT Vol	3	23	38	203
Lane Flow Rate	501	305	51	580
Geometry Grp	1	1	1	1
Degree of Util (X)	0.887	0.617	0.112	1.153
Departure Headway (Hd)	6.725	7.718	8.389	7.15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	541	470	430	511
Service Time	4.725	5.718	6.389	5.153
HCM Lane V/C Ratio	0.926	0.649	0.119	1.135
HCM Control Delay	42	22.4	12.4	114.6
HCM Lane LOS	E	C	B	F
HCM 95th-tile Q	10.1	4.1	0.4	20.3

Intersection	
Int Delay, s/veh	1670.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	27	217	191	37	33	392	263	202	38	423	59
Future Vol, veh/h	34	27	217	191	37	33	392	263	202	38	423	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	160	-	150	170	-	260
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	8	2	14	4	9	2	2	13	8	2	2
Mvmt Flow	37	29	236	208	40	36	426	286	220	41	460	64

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1828	1900	460	1845	1744	286	524	0	0	506	0	0
Stage 1	542	542	-	1138	1138	-	-	-	-	-	-	-
Stage 2	1286	1358	-	707	606	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.58	6.22	7.24	6.54	6.29	4.12	-	-	4.18	-	-
Critical Hdwy Stg 1	6.12	5.58	-	6.24	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.58	-	6.24	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.072	3.318	3.626	4.036	3.381	2.218	-	-	2.272	-	-
Pot Cap-1 Maneuver	59	67	601	~ 53	85	737	1043	-	-	1029	-	-
Stage 1	525	510	-	232	274	-	-	-	-	-	-	-
Stage 2	202	211	-	408	484	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 12	38	601	~ 8	48	737	1043	-	-	1029	-	-
Mov Cap-2 Maneuver	~ 12	38	-	~ 8	48	-	-	-	-	-	-	-
Stage 1	311	490	-	~ 137	162	-	-	-	-	-	-	-
Stage 2	85	125	-	224	465	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 398.3	$ 11818.7	4.9	0.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1043	-	-	17	601	11	1029	-	-
HCM Lane V/C Ratio	0.409	-	-	3.9	0.392	25.791	0.04	-	-
HCM Control Delay (s)	10.8	-	-	$ 1762.4	14.8	$ 1818.7	8.6	-	-
HCM Lane LOS	B	-	-	F	B	F	A	-	-
HCM 95th %tile Q(veh)	2	-	-	8.9	1.9	37	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	188
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	116	1	330	176	527	0	0	564	267
Future Vol, veh/h	0	0	0	116	1	330	176	527	0	0	564	267
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	9	2	5	6	5	2	2	4	5
Mvmt Flow	0	0	0	126	1	359	191	573	0	0	613	290
Number of Lanes	0	0	0	0	1	1	1	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	24	89.6	359.4
HCM LOS	C	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	99%	0%	0%
Vol Thru, %	0%	100%	1%	0%	68%
Vol Right, %	0%	0%	0%	100%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	527	117	330	831
LT Vol	176	0	116	0	0
Through Vol	0	527	1	0	564
RT Vol	0	0	0	330	267
Lane Flow Rate	191	573	127	359	903
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.408	1.14	0.293	0.694	1.74
Departure Headway (Hd)	8.583	8.045	9.352	7.973	7.208
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	423	458	387	456	515
Service Time	6.283	5.745	7.052	5.673	5.208
HCM Lane V/C Ratio	0.452	1.251	0.328	0.787	1.753
HCM Control Delay	17.1	113.8	15.9	26.9	359.4
HCM Lane LOS	C	F	C	D	F
HCM 95th-tile Q	1.9	18.3	1.2	5.2	52.4

Intersection	
Intersection Delay, s/veh	103.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	210	1	93	0	0	0	0	496	206	258	422	0
Future Vol, veh/h	210	1	93	0	0	0	0	496	206	258	422	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	8	2	11	2	2	2	2	2	7	8	6	2
Mvmt Flow	228	1	101	0	0	0	0	539	224	280	459	0
Number of Lanes	0	1	1	0	0	0	0	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	18.2	208.7	32
HCM LOS	C	F	D

Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	71%	0%	0%	0%	100%
Vol Right, %	29%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	702	211	93	258	422
LT Vol	0	210	0	258	0
Through Vol	496	1	0	0	422
RT Vol	206	0	93	0	0
Lane Flow Rate	763	229	101	280	459
Geometry Grp	6	7	7	7	7
Degree of Util (X)	1.396	0.525	0.195	0.564	0.855
Departure Headway (Hd)	6.588	8.836	7.487	7.766	7.216
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	557	411	482	468	505
Service Time	4.616	6.536	5.187	5.466	4.916
HCM Lane V/C Ratio	1.37	0.557	0.21	0.598	0.909
HCM Control Delay	208.7	20.9	12	20	39.3
HCM Lane LOS	F	C	B	C	E
HCM 95th-tile Q	35.1	3	0.7	3.4	8.9

Intersection	
Intersection Delay, s/veh	54.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	243	6	23	0	9	38	21	421	3	41	277	196
Future Vol, veh/h	243	6	23	0	9	38	21	421	3	41	277	196
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	5	2	2	2	2	50	2	3	2	58	3	2
Mvmt Flow	264	7	25	0	10	41	23	458	3	45	301	213
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	20.9	12.1	35.8	93.1
HCM LOS	C	B	E	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	89%	0%	8%
Vol Thru, %	95%	2%	19%	54%
Vol Right, %	1%	8%	81%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	445	272	47	514
LT Vol	21	243	0	41
Through Vol	421	6	9	277
RT Vol	3	23	38	196
Lane Flow Rate	484	296	51	559
Geometry Grp	1	1	1	1
Degree of Util (X)	0.846	0.592	0.11	1.092
Departure Headway (Hd)	6.584	7.563	8.108	7.034
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	556	482	445	520
Service Time	4.584	5.563	6.108	5.039
HCM Lane V/C Ratio	0.871	0.614	0.115	1.075
HCM Control Delay	35.8	20.9	12.1	93.1
HCM Lane LOS	E	C	B	F
HCM 95th-tile Q	8.9	3.8	0.4	17.7

Intersection	
Int Delay, s/veh	1236.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	48	266	229	44	59	233	408	279	41	313	42
Future Vol, veh/h	49	48	266	229	44	59	233	408	279	41	313	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	160	-	150	170	-	260
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	4	2	12	4	6	2	2	12	10	2	2
Mvmt Flow	53	52	289	249	48	64	253	443	303	45	340	46

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1587	1682	340	1573	1425	443	386	0	0	746	0	0
Stage 1	430	430	-	949	949	-	-	-	-	-	-	-
Stage 2	1157	1252	-	624	476	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.54	6.22	7.22	6.54	6.26	4.12	-	-	4.2	-	-
Critical Hdwy Stg 1	6.12	5.54	-	6.22	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.54	-	6.22	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.036	3.318	3.608	4.036	3.354	2.218	-	-	2.29	-	-
Pot Cap-1 Maneuver	87	93	702	~ 85	134	606	1172	-	-	827	-	-
Stage 1	603	580	-	300	336	-	-	-	-	-	-	-
Stage 2	239	242	-	457	553	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 39	69	702	~ 16	99	606	1172	-	-	827	-	-
Mov Cap-2 Maneuver	~ 39	69	-	~ 16	99	-	-	-	-	-	-	-
Stage 1	473	549	-	~ 235	263	-	-	-	-	-	-	-
Stage 2	137	190	-	~ 230	523	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	193.8	$ 7270.1	2.3	1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1172	-	-	50	702	22	827	-	-
HCM Lane V/C Ratio	0.216	-	-	2.109	0.412	16.403	0.054	-	-
HCM Control Delay (s)	8.9	-	-	$ 687.8	13.$	7270.1	9.6	-	-
HCM Lane LOS	A	-	-	F	B	F	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	10.6	2	45.3	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	205
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	182	2	299	120	621	0	0	573	236
Future Vol, veh/h	0	0	0	182	2	299	120	621	0	0	573	236
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	5	2	6	2	3	2	2	4	5
Mvmt Flow	0	0	0	198	2	325	130	675	0	0	623	257
Number of Lanes	0	0	0	0	1	1	1	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	22.2	164.8	351
HCM LOS	C	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	99%	0%	0%
Vol Thru, %	0%	100%	1%	0%	71%
Vol Right, %	0%	0%	0%	100%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	621	184	299	809
LT Vol	120	0	182	0	0
Through Vol	0	621	2	0	573
RT Vol	0	0	0	299	236
Lane Flow Rate	130	675	200	325	879
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.278	1.348	0.457	0.63	1.719
Departure Headway (Hd)	8.522	8.019	9.428	8.116	7.466
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	424	459	384	449	492
Service Time	6.222	5.719	7.128	5.816	5.466
HCM Lane V/C Ratio	0.307	1.471	0.521	0.724	1.787
HCM Control Delay	14.5	193.9	19.8	23.6	351
HCM Lane LOS	B	F	C	C	F
HCM 95th-tile Q	1.1	27.7	2.3	4.2	49.6

Intersection	
Intersection Delay, s/veh	78.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	344	1	184	0	0	0	0	399	158	299	456	0
Future Vol, veh/h	344	1	184	0	0	0	0	399	158	299	456	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	4	2	5	2	2	2	2	2	6	5	4	2
Mvmt Flow	374	1	200	0	0	0	0	434	172	325	496	0
Number of Lanes	0	1	1	0	0	0	0	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	35.7	142.7	60.3
HCM LOS	E	F	F

Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	72%	0%	0%	0%	100%
Vol Right, %	28%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	557	345	184	299	456
LT Vol	0	344	0	299	0
Through Vol	399	1	0	0	456
RT Vol	158	0	184	0	0
Lane Flow Rate	605	375	200	325	496
Geometry Grp	6	7	7	7	7
Degree of Util (X)	1.225	0.866	0.391	0.726	1.036
Departure Headway (Hd)	7.438	8.687	7.41	8.439	7.903
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	490	420	488	432	461
Service Time	5.438	6.387	5.11	6.139	5.603
HCM Lane V/C Ratio	1.235	0.893	0.41	0.752	1.076
HCM Control Delay	142.7	46.8	14.8	30.5	79.9
HCM Lane LOS	F	E	B	D	F
HCM 95th-tile Q	23.2	8.6	1.8	5.7	14.4

Intersection	
Intersection Delay, s/veh	74.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	210	11	31	11	17	55	27	307	7	51	374	196
Future Vol, veh/h	210	11	31	11	17	55	27	307	7	51	374	196
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	36	2	2	2	39	2	2
Mvmt Flow	228	12	34	12	18	60	29	334	8	55	407	213
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	19	12.7	21.7	133.7
HCM LOS	C	B	C	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	83%	13%	8%
Vol Thru, %	90%	4%	20%	60%
Vol Right, %	2%	12%	66%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	341	252	83	621
LT Vol	27	210	11	51
Through Vol	307	11	17	374
RT Vol	7	31	55	196
Lane Flow Rate	371	274	90	675
Geometry Grp	1	1	1	1
Degree of Util (X)	0.655	0.536	0.183	1.212
Departure Headway (Hd)	6.784	7.583	7.951	6.465
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	537	479	454	560
Service Time	4.784	5.583	5.951	4.554
HCM Lane V/C Ratio	0.691	0.572	0.198	1.205
HCM Control Delay	21.7	19	12.7	133.7
HCM Lane LOS	C	C	B	F
HCM 95th-tile Q	4.7	3.1	0.7	24.7

Intersection	
Int Delay, s/veh	578.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	41	266	178	41	53	233	408	223	35	313	42
Future Vol, veh/h	49	41	266	178	41	53	233	408	223	35	313	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	160	-	150	170	-	260
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	4	2	12	4	6	2	2	12	10	2	2
Mvmt Flow	53	45	289	193	45	58	253	443	242	38	340	46

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1538	1607	340	1555	1411	443	386	0	0	685	0	0
Stage 1	416	416	-	949	949	-	-	-	-	-	-	-
Stage 2	1122	1191	-	606	462	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.54	6.22	7.22	6.54	6.26	4.12	-	-	4.2	-	-
Critical Hdwy Stg 1	6.12	5.54	-	6.22	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.54	-	6.22	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.036	3.318	3.608	4.036	3.354	2.218	-	-	2.29	-	-
Pot Cap-1 Maneuver	94	104	702	~ 87	137	606	1172	-	-	872	-	-
Stage 1	614	588	-	300	336	-	-	-	-	-	-	-
Stage 2	250	259	-	467	561	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 46	78	702	~ 23	103	606	1172	-	-	872	-	-
Mov Cap-2 Maneuver	~ 46	78	-	~ 23	103	-	-	-	-	-	-	-
Stage 1	481	562	-	235	263	-	-	-	-	-	-	-
Stage 2	147	203	-	242	536	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	137.3	$ 3814.6	2.4	0.8
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1172	-	-	57	702	33	872	-	-
HCM Lane V/C Ratio	0.216	-	-	1.716	0.412	8.959	0.044	-	-
HCM Control Delay (s)	8.9	-	-	$ 502.7	13.$	3814.6	9.3	-	-
HCM Lane LOS	A	-	-	F	B	F	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	9.1	2	35.9	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	171.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	182	2	273	120	591	0	0	540	218
Future Vol, veh/h	0	0	0	182	2	273	120	591	0	0	540	218
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	5	2	6	2	3	2	2	4	5
Mvmt Flow	0	0	0	198	2	297	130	642	0	0	587	237
Number of Lanes	0	0	0	0	1	1	1	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	20.3	136	296.4
HCM LOS	C	F	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	99%	0%	0%
Vol Thru, %	0%	100%	1%	0%	71%
Vol Right, %	0%	0%	0%	100%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	591	184	273	758
LT Vol	120	0	182	0	0
Through Vol	0	591	2	0	540
RT Vol	0	0	0	273	218
Lane Flow Rate	130	642	200	297	824
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.275	1.268	0.457	0.575	1.595
Departure Headway (Hd)	8.309	7.808	9.26	7.954	7.325
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	436	469	392	457	503
Service Time	6.009	5.508	6.96	5.654	5.325
HCM Lane V/C Ratio	0.298	1.369	0.51	0.65	1.638
HCM Control Delay	14.1	160.8	19.5	20.9	296.4
HCM Lane LOS	B	F	C	C	F
HCM 95th-tile Q	1.1	24.4	2.3	3.5	43.3

Intersection	
Intersection Delay, s/veh	69.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	324	1	184	0	0	0	0	389	158	275	447	0
Future Vol, veh/h	324	1	184	0	0	0	0	389	158	275	447	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	4	2	5	2	2	2	2	2	6	5	4	2
Mvmt Flow	352	1	200	0	0	0	0	423	172	299	486	0
Number of Lanes	0	1	1	0	0	0	0	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Righ	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	30.2	128.6	53.3
HCM LOS	D	F	F

Lane	NBLn1	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	71%	0%	0%	0%	100%
Vol Right, %	29%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	547	325	184	275	447
LT Vol	0	324	0	275	0
Through Vol	389	1	0	0	447
RT Vol	158	0	184	0	0
Lane Flow Rate	595	353	200	299	486
Geometry Grp	6	7	7	7	7
Degree of Util (X)	1.189	0.809	0.388	0.66	1.003
Departure Headway (Hd)	7.338	8.637	7.361	8.298	7.763
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	499	420	492	439	471
Service Time	5.338	6.337	5.061	5.998	5.463
HCM Lane V/C Ratio	1.192	0.84	0.407	0.681	1.032
HCM Control Delay	128.6	39	14.7	25.7	70.3
HCM Lane LOS	F	E	B	D	F
HCM 95th-tile Q	21.7	7.3	1.8	4.7	13.3

Intersection	
Intersection Delay, s/veh	70.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	207	11	31	11	17	55	27	301	7	51	368	193
Future Vol, veh/h	207	11	31	11	17	55	27	301	7	51	368	193
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	36	2	2	2	39	2	2
Mvmt Flow	225	12	34	12	18	60	29	327	8	55	400	210
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	18.7	12.6	21.1	126.7
HCM LOS	C	B	C	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	83%	13%	8%
Vol Thru, %	90%	4%	20%	60%
Vol Right, %	2%	12%	66%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	335	249	83	612
LT Vol	27	207	11	51
Through Vol	301	11	17	368
RT Vol	7	31	55	193
Lane Flow Rate	364	271	90	665
Geometry Grp	1	1	1	1
Degree of Util (X)	0.644	0.529	0.183	1.194
Departure Headway (Hd)	6.744	7.535	7.876	6.46
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	539	482	458	559
Service Time	4.744	5.535	5.876	4.525
HCM Lane V/C Ratio	0.675	0.562	0.197	1.19
HCM Control Delay	21.1	18.7	12.6	126.7
HCM Lane LOS	C	C	B	F
HCM 95th-tile Q	4.6	3	0.7	23.8

1: Hammatt Ave & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	2.8	0.0	0.0	0.8	0.5
Total Del/Veh (s)	17.2	24.3	16.2	29.0	21.6

2: Hammatt Ave & SR99 NB Ramps Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	2.6	0.0	0.0	0.6
Total Del/Veh (s)	16.1	19.4	19.3	18.6

3: Hammatt Ave & SR99 SB Ramps Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.3	0.0	0.0	0.3
Total Del/Veh (s)	22.8	20.1	16.8	19.3

4: Hammatt Ave & F St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.3	0.1	0.2	0.2	0.2
Total Del/Veh (s)	27.7	8.4	8.6	8.6	13.2

5: West Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.1
Total Del/Veh (s)	0.8	2.7	18.8	3.7

6: Central Access/Industrial Rd & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.1
Total Del/Veh (s)	0.5	1.2	7.4	4.2	1.8

7: East Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.1
Total Del/Veh (s)	0.3	0.2	5.5	1.7

Total Zone Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	236.2

Intersection: 1: Hammatt Ave & Campbell Blvd

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	R	L	T	R
Maximum Queue (ft)	111	67	177	184	285	110	177	332	73
Average Queue (ft)	29	45	136	112	73	32	33	167	13
95th Queue (ft)	78	71	201	181	181	79	100	280	55
Link Distance (ft)	1679		162		369			1008	
Upstream Blk Time (%)			10		0				
Queuing Penalty (veh)			34		1				
Storage Bay Dist (ft)		40		160		150	170		260
Storage Blk Time (%)	5	9		3	0	0	0	10	
Queuing Penalty (veh)	5	2		13	2	0	0	5	

Intersection: 2: Hammatt Ave & SR99 NB Ramps

Movement	WB	WB	NB	NB	SB
Directions Served	LT	R	L	T	TR
Maximum Queue (ft)	139	187	174	320	371
Average Queue (ft)	64	73	105	82	204
95th Queue (ft)	119	130	173	222	355
Link Distance (ft)	1195			533	369
Upstream Blk Time (%)					0
Queuing Penalty (veh)					3
Storage Bay Dist (ft)		500	150		
Storage Blk Time (%)			4	1	
Queuing Penalty (veh)			16	1	

Intersection: 3: Hammatt Ave & SR99 SB Ramps

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	207	88	389	170	195
Average Queue (ft)	105	36	178	113	53
95th Queue (ft)	175	67	333	180	151
Link Distance (ft)	1346		725		533
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		400		150	
Storage Blk Time (%)				4	0
Queuing Penalty (veh)				9	0

Intersection: 4: Hammatt Ave & F St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	255	87	218	269
Average Queue (ft)	127	28	81	111
95th Queue (ft)	221	71	160	216
Link Distance (ft)	2225	1091	2524	725
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Access & Campbell Blvd

Movement	EB	EB	WB	NB
Directions Served	T	TR	LT	LR
Maximum Queue (ft)	20	15	107	200
Average Queue (ft)	1	1	20	67
95th Queue (ft)	10	8	74	141
Link Distance (ft)	162	162	113	269
Upstream Blk Time (%)			1	0
Queuing Penalty (veh)			2	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Central Access/Industrial Rd & Campbell Blvd

Movement	EB	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LTR	LTR
Maximum Queue (ft)	29	61	64	118	31
Average Queue (ft)	2	4	3	58	12
95th Queue (ft)	16	29	32	101	36
Link Distance (ft)	113	113	274	264	724
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: East Access & Campbell Blvd

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	11	116
Average Queue (ft)	0	53
95th Queue (ft)	9	91
Link Distance (ft)		253
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 93

1: Hammatt Ave & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.7	0.0	0.0	1.0	0.4
Total Del/Veh (s)	16.1	24.5	14.7	23.6	18.8

2: Hammatt Ave & SR99 NB Ramps Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	2.3	0.0	0.0	0.6
Total Del/Veh (s)	16.6	13.2	15.2	14.8

3: Hammatt Ave & SR99 SB Ramps Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.5	0.0	0.0	0.5
Total Del/Veh (s)	17.8	20.4	20.5	19.6

4: Hammatt Ave & F St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.2	0.2	0.0	0.1
Total Del/Veh (s)	21.3	11.1	8.1	6.3	10.4

5: West Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.0	0.2	0.1
Total Del/Veh (s)	0.9	3.4	25.9	4.9

6: Central Access/Industrial Rd & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	0.6	0.7	6.8	4.2	1.7

7: East Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.2	0.1	5.0	1.7

Total Zone Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	356.4

Intersection: 1: Hammatt Ave & Campbell Blvd

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	R	L	T	R
Maximum Queue (ft)	139	65	156	167	267	174	100	208	81
Average Queue (ft)	47	52	128	69	97	48	32	109	14
95th Queue (ft)	105	72	177	132	194	122	77	184	57
Link Distance (ft)	2182		140		356			1176	
Upstream Blk Time (%)			12		0				
Queuing Penalty (veh)			37		0				
Storage Bay Dist (ft)		40		160		150	170		260
Storage Blk Time (%)	10	11		0	2	0	0	1	
Queuing Penalty (veh)	15	5		1	6	0	0	1	

Intersection: 2: Hammatt Ave & SR99 NB Ramps

Movement	WB	WB	NB	NB	SB
Directions Served	LT	R	L	T	TR
Maximum Queue (ft)	152	141	150	199	344
Average Queue (ft)	77	67	69	56	154
95th Queue (ft)	137	123	125	137	281
Link Distance (ft)	1195			533	356
Upstream Blk Time (%)					0
Queuing Penalty (veh)					1
Storage Bay Dist (ft)		500	150		
Storage Blk Time (%)			0	0	
Queuing Penalty (veh)			1	1	

Intersection: 3: Hammatt Ave & SR99 SB Ramps

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	242	92	296	173	297
Average Queue (ft)	130	47	139	114	85
95th Queue (ft)	211	81	250	178	227
Link Distance (ft)	1346		725		533
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		400		150	
Storage Blk Time (%)				6	0
Queuing Penalty (veh)				19	0

Intersection: 4: Hammatt Ave & F St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	176	114	170	242
Average Queue (ft)	97	47	65	87
95th Queue (ft)	161	88	132	180
Link Distance (ft)	2225	1091	2524	725
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Access & Campbell Blvd

Movement	EB	EB	WB	NB
Directions Served	T	TR	LT	LR
Maximum Queue (ft)	15	35	116	192
Average Queue (ft)	1	2	26	71
95th Queue (ft)	8	16	87	159
Link Distance (ft)	140	140	183	430
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Central Access/Industrial Rd & Campbell Blvd

Movement	EB	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LTR	LTR
Maximum Queue (ft)	34	7	21	114	55
Average Queue (ft)	4	0	1	51	19
95th Queue (ft)	21	4	11	93	46
Link Distance (ft)	183	183	250	628	735
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: East Access & Campbell Blvd

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	5	64
Average Queue (ft)	0	29
95th Queue (ft)	0	51
Link Distance (ft)		604
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 87

1: Hammatt Ave & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	2.9	0.0	0.0	0.8	0.5
Total Del/Veh (s)	15.8	24.4	17.0	28.1	21.5

2: Hammatt Ave & SR99 NB Ramps Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	2.7	0.0	0.0	0.6
Total Del/Veh (s)	16.1	18.2	16.0	16.8

3: Hammatt Ave & SR99 SB Ramps Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.3	0.0	0.0	0.3
Total Del/Veh (s)	23.8	18.6	16.4	18.7

4: Hammatt Ave & F St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.1	0.2	0.1	0.2
Total Del/Veh (s)	27.6	9.2	7.7	9.0	13.1

Total Zone Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	361.5

Intersection: 1: Hammatt Ave & Campbell Blvd

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	R	L	T	R
Maximum Queue (ft)	94	68	177	184	312	125	139	308	121
Average Queue (ft)	26	44	141	108	89	32	32	162	16
95th Queue (ft)	71	71	206	182	229	80	90	280	70
Link Distance (ft)	1679		162		369			1008	
Upstream Blk Time (%)			12		0				
Queuing Penalty (veh)			39		1				
Storage Bay Dist (ft)		40		160		150	170		260
Storage Blk Time (%)	5	8		4	1	0		8	0
Queuing Penalty (veh)	5	2		17	2	0		4	0

Intersection: 2: Hammatt Ave & SR99 NB Ramps

Movement	WB	WB	NB	NB	SB
Directions Served	LT	R	L	T	TR
Maximum Queue (ft)	167	194	170	310	348
Average Queue (ft)	66	76	109	67	173
95th Queue (ft)	131	140	173	197	321
Link Distance (ft)	1195			533	369
Upstream Blk Time (%)					0
Queuing Penalty (veh)					2
Storage Bay Dist (ft)		500	150		
Storage Blk Time (%)			4	1	
Queuing Penalty (veh)			15	1	

Intersection: 3: Hammatt Ave & SR99 SB Ramps

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	203	85	383	174	352
Average Queue (ft)	107	34	167	108	59
95th Queue (ft)	173	67	319	174	202
Link Distance (ft)	1346		725		533
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		400		150	
Storage Blk Time (%)				4	0
Queuing Penalty (veh)				10	0

Intersection: 4: Hammatt Ave & F St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	253	92	188	262
Average Queue (ft)	123	30	73	116
95th Queue (ft)	217	74	141	221
Link Distance (ft)	2225	1091	2524	725
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 99

1: Hammatt Ave & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	2.5	0.3	0.1	1.0	0.6
Total Del/Veh (s)	18.1	28.1	16.9	41.6	26.0

2: Hammatt Ave & SR99 NB Ramps Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	2.6	0.0	0.1	0.6
Total Del/Veh (s)	16.2	17.2	24.7	20.2

3: Hammatt Ave & SR99 SB Ramps Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.2	0.0	0.0	0.3
Total Del/Veh (s)	22.3	25.7	16.7	21.3

4: Hammatt Ave & F St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.1	0.2	0.1	0.2
Total Del/Veh (s)	25.1	9.4	8.3	8.1	12.3

5: West Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.2	0.2	0.1
Total Del/Veh (s)	0.7	4.4	31.2	6.1

6: Central Access/Industrial Rd & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.2	0.1	0.1
Total Del/Veh (s)	0.5	1.3	8.2	5.2	1.9

7: East Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.1	0.2	0.1
Total Del/Veh (s)	0.3	0.2	5.5	1.7

Total Zone Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	325.6

Intersection: 1: Hammatt Ave & Campbell Blvd

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	R	L	T	R
Maximum Queue (ft)	87	103	177	182	285	159	194	428	73
Average Queue (ft)	26	44	150	103	88	39	62	207	12
95th Queue (ft)	66	83	204	171	199	109	157	359	53
Link Distance (ft)	1679		162		369			1008	
Upstream Blk Time (%)			16		0				
Queuing Penalty (veh)			55		0				
Storage Bay Dist (ft)		200		160		150	170		260
Storage Blk Time (%)				3	1	0	0	18	
Queuing Penalty (veh)				15	3	0	0	13	

Intersection: 2: Hammatt Ave & SR99 NB Ramps

Movement	WB	WB	NB	NB	SB
Directions Served	LT	R	L	T	TR
Maximum Queue (ft)	154	180	172	244	382
Average Queue (ft)	64	85	106	52	262
95th Queue (ft)	117	143	169	159	407
Link Distance (ft)	1195			533	369
Upstream Blk Time (%)					2
Queuing Penalty (veh)					12
Storage Bay Dist (ft)		500	150		
Storage Blk Time (%)			4	0	
Queuing Penalty (veh)			16	0	

Intersection: 3: Hammatt Ave & SR99 SB Ramps

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	231	93	422	174	300
Average Queue (ft)	111	36	213	124	49
95th Queue (ft)	197	70	370	181	180
Link Distance (ft)	1346		725		533
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		400		150	
Storage Blk Time (%)				5	0
Queuing Penalty (veh)				11	0

Intersection: 4: Hammatt Ave & F St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	244	86	198	248
Average Queue (ft)	122	36	80	104
95th Queue (ft)	211	77	154	204
Link Distance (ft)	2225	1091	2524	725
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Access & Campbell Blvd

Movement	EB	EB	WB	NB
Directions Served	T	TR	LT	LR
Maximum Queue (ft)	4	4	122	237
Average Queue (ft)	0	0	36	84
95th Queue (ft)	3	3	108	175
Link Distance (ft)	162	162	113	269
Upstream Blk Time (%)			1	0
Queuing Penalty (veh)			3	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Central Access/Industrial Rd & Campbell Blvd

Movement	EB	EB	WB	NB	SB
Directions Served	LT	TR	LTR	LTR	LTR
Maximum Queue (ft)	37	44	54	118	35
Average Queue (ft)	4	2	5	57	13
95th Queue (ft)	21	19	33	97	37
Link Distance (ft)	113	113	274	264	724
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: East Access & Campbell Blvd

Movement	NB
Directions Served	LR
Maximum Queue (ft)	113
Average Queue (ft)	54
95th Queue (ft)	94
Link Distance (ft)	253
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 129

1: Hammatt Ave & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.6	0.3	0.0	1.0	0.5
Total Del/Veh (s)	17.6	24.5	15.5	27.6	20.0

2: Hammatt Ave & SR99 NB Ramps Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	2.5	0.0	0.1	0.6
Total Del/Veh (s)	18.2	12.2	16.5	15.2

3: Hammatt Ave & SR99 SB Ramps Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.4	0.0	0.0	0.4
Total Del/Veh (s)	20.2	23.8	23.2	22.4

4: Hammatt Ave & F St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.2	0.2	0.0	0.1
Total Del/Veh (s)	22.1	11.5	7.6	7.8	11.3

5: West Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Del/Veh (s)	0.7	4.0	22.6	4.4

6: Central Access/Industrial Rd & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	0.5	0.8	7.0	3.9	1.7

7: East Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.3	0.1	5.1	1.7

Total Zone Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	462.0

Intersection: 1: Hammatt Ave & Campbell Blvd

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	R	L	T	R
Maximum Queue (ft)	95	121	160	158	322	175	122	218	42
Average Queue (ft)	38	52	130	69	114	54	35	118	13
95th Queue (ft)	79	96	178	130	239	151	85	192	39
Link Distance (ft)	2182		140		356			1176	
Upstream Blk Time (%)			16		0				
Queuing Penalty (veh)			47		2				
Storage Bay Dist (ft)		200		160		150	170		260
Storage Blk Time (%)				0	3	0	0	2	
Queuing Penalty (veh)				0	13	1	0	1	

Intersection: 2: Hammatt Ave & SR99 NB Ramps

Movement	WB	WB	NB	NB	SB
Directions Served	LT	R	L	T	TR
Maximum Queue (ft)	155	180	158	234	356
Average Queue (ft)	66	80	67	73	175
95th Queue (ft)	123	149	123	168	318
Link Distance (ft)	1195			533	356
Upstream Blk Time (%)					0
Queuing Penalty (veh)					3
Storage Bay Dist (ft)		500	150		
Storage Blk Time (%)			0	1	
Queuing Penalty (veh)			1	1	

Intersection: 3: Hammatt Ave & SR99 SB Ramps

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	267	94	387	174	406
Average Queue (ft)	149	46	171	128	127
95th Queue (ft)	240	78	311	193	284
Link Distance (ft)	1346		725		533
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		400		150	
Storage Blk Time (%)				6	2
Queuing Penalty (veh)				19	4

Intersection: 4: Hammatt Ave & F St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	215	124	153	318
Average Queue (ft)	108	47	61	104
95th Queue (ft)	184	97	116	229
Link Distance (ft)	2225	1091	2524	725
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Access & Campbell Blvd

Movement	EB	WB	NB
Directions Served	T	LT	LR
Maximum Queue (ft)	5	143	161
Average Queue (ft)	0	31	65
95th Queue (ft)	4	99	126
Link Distance (ft)	140	183	430
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Central Access/Industrial Rd & Campbell Blvd

Movement	EB	WB	NB	SB
Directions Served	LT	LTR	LTR	LTR
Maximum Queue (ft)	45	40	116	59
Average Queue (ft)	4	1	51	22
95th Queue (ft)	23	14	96	49
Link Distance (ft)	183	250	628	735
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: East Access & Campbell Blvd

Movement	NB
Directions Served	LR
Maximum Queue (ft)	58
Average Queue (ft)	26
95th Queue (ft)	48
Link Distance (ft)	604
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 92

1: Hammatt Ave & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	2.6	0.0	0.0	1.1	0.8
Total Del/Veh (s)	18.9	43.3	21.8	33.3	26.2

2: Hammatt Ave & SR99 NB Ramps Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	2.5	0.0	0.0	0.6
Total Del/Veh (s)	20.7	18.2	24.8	21.5

3: Hammatt Ave & SR99 SB Ramps Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.4	0.0	0.0	0.3
Total Del/Veh (s)	24.1	27.6	17.6	23.1

4: Hammatt Ave & F St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.3	0.1	0.3	0.0	0.2
Total Del/Veh (s)	30.1	11.1	11.1	9.0	14.5

Total Zone Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	1247.1

Intersection: 1: Hammatt Ave & Campbell Blvd

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	R	L	T	R
Maximum Queue (ft)	101	168	142	184	377	40	167	418	250
Average Queue (ft)	43	72	61	163	147	10	21	215	51
95th Queue (ft)	86	135	118	208	365	28	93	370	179
Link Distance (ft)	1679		162		369			1008	
Upstream Blk Time (%)			0		1				
Queuing Penalty (veh)			0		11				
Storage Bay Dist (ft)		200		160		150	170		260
Storage Blk Time (%)		0		18	0			17	0
Queuing Penalty (veh)		0		61	2			13	0

Intersection: 2: Hammatt Ave & SR99 NB Ramps

Movement	WB	WB	NB	NB	SB
Directions Served	LT	R	L	T	TR
Maximum Queue (ft)	181	214	174	351	384
Average Queue (ft)	79	88	110	84	235
95th Queue (ft)	145	170	177	252	395
Link Distance (ft)	1195			533	369
Upstream Blk Time (%)				0	2
Queuing Penalty (veh)				1	11
Storage Bay Dist (ft)		500	150		
Storage Blk Time (%)			4	1	
Queuing Penalty (veh)			20	3	

Intersection: 3: Hammatt Ave & SR99 SB Ramps

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	183	92	484	173	292
Average Queue (ft)	97	42	263	115	66
95th Queue (ft)	161	78	446	178	192
Link Distance (ft)	1346		725		533
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		400		150	
Storage Blk Time (%)				4	0
Queuing Penalty (veh)				17	0

Intersection: 4: Hammatt Ave & F St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	273	110	248	277
Average Queue (ft)	143	34	119	117
95th Queue (ft)	236	87	213	221
Link Distance (ft)	2225	1091	2524	725
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 139

1: Hammatt Ave & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.7	0.0	0.0	0.9	0.6
Total Del/Veh (s)	17.5	39.0	13.9	28.1	20.0

2: Hammatt Ave & SR99 NB Ramps Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	2.1	0.0	0.0	0.5
Total Del/Veh (s)	19.5	12.7	26.1	19.5

3: Hammatt Ave & SR99 SB Ramps Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.6	0.0	0.0	0.5
Total Del/Veh (s)	19.3	25.3	23.9	23.0

4: Hammatt Ave & F St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.2	0.3	0.0	0.1
Total Del/Veh (s)	25.3	14.6	10.4	9.9	13.2

Total Zone Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	904.6

Intersection: 1: Hammatt Ave & Campbell Blvd

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	R	L	T	R
Maximum Queue (ft)	119	177	147	181	234	87	89	343	96
Average Queue (ft)	54	78	65	107	86	14	14	151	21
95th Queue (ft)	98	139	126	178	185	54	61	278	65
Link Distance (ft)	2182		1244		355			1176	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		200		160		150	170		260
Storage Blk Time (%)		0		2	1	0		7	
Queuing Penalty (veh)		0		10	3	0		4	

Intersection: 2: Hammatt Ave & SR99 NB Ramps

Movement	WB	WB	NB	NB	SB
Directions Served	LT	R	L	T	TR
Maximum Queue (ft)	209	146	171	230	373
Average Queue (ft)	106	66	78	65	232
95th Queue (ft)	180	115	143	168	386
Link Distance (ft)	1195			533	355
Upstream Blk Time (%)					3
Queuing Penalty (veh)					17
Storage Bay Dist (ft)		500	150		
Storage Blk Time (%)			1	1	
Queuing Penalty (veh)			5	1	

Intersection: 3: Hammatt Ave & SR99 SB Ramps

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	246	140	414	174	429
Average Queue (ft)	135	59	200	133	160
95th Queue (ft)	217	110	350	197	331
Link Distance (ft)	1346		725		533
Upstream Blk Time (%)					0
Queuing Penalty (veh)					0
Storage Bay Dist (ft)		400		150	
Storage Blk Time (%)				8	2
Queuing Penalty (veh)				35	5

Intersection: 4: Hammatt Ave & F St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	226	119	231	356
Average Queue (ft)	115	52	85	141
95th Queue (ft)	189	98	168	288
Link Distance (ft)	2225	1091	2524	725
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 80

1: Hammatt Ave & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	2.5	0.0	0.0	1.9	0.8
Total Del/Veh (s)	18.6	24.5	19.1	34.8	24.2

2: Hammatt Ave & SR99 NB Ramps Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	2.6	0.0	0.0	0.6
Total Del/Veh (s)	23.3	13.7	11.2	14.8

3: Hammatt Ave & SR99 SB Ramps Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.3	0.3	0.2	0.5
Total Del/Veh (s)	31.1	36.9	28.8	32.6

4: Hammatt Ave & F St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.1	0.3	0.1	0.2
Total Del/Veh (s)	37.5	11.1	12.1	9.9	16.2

5: West Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.1
Total Del/Veh (s)	0.9	2.3	16.1	2.7

6: Central Access/Industrial Rd & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.1
Total Del/Veh (s)	0.6	0.7	11.4	4.6	2.1

7: East Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.1	0.2	0.1
Total Del/Veh (s)	0.4	0.1	5.5	1.3

Total Zone Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	332.4

Intersection: 1: Hammatt Ave & Campbell Blvd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	R	L	T	TR
Maximum Queue (ft)	118	143	178	116	184	364	116	188	292	242
Average Queue (ft)	50	61	140	40	158	164	23	40	157	105
95th Queue (ft)	98	113	199	90	214	367	68	111	254	187
Link Distance (ft)	1669		163	163		360			1002	
Upstream Blk Time (%)			12	0		1				
Queuing Penalty (veh)			24	0		4				
Storage Bay Dist (ft)		200			160		160	170		260
Storage Blk Time (%)		0			13	0	0	0	8	0
Queuing Penalty (veh)		0			60	1	0	0	26	0

Intersection: 2: Hammatt Ave & SR99 NB Ramps

Movement	WB	WB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	R
Maximum Queue (ft)	162	266	173	301	280	101
Average Queue (ft)	78	122	104	46	114	33
95th Queue (ft)	142	217	170	218	247	70
Link Distance (ft)	1195			533	360	360
Upstream Blk Time (%)				0	0	
Queuing Penalty (veh)				0	1	
Storage Bay Dist (ft)		500	150			
Storage Blk Time (%)			3	0		
Queuing Penalty (veh)			17	0		

Intersection: 3: Hammatt Ave & SR99 SB Ramps

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	312	86	693	174	506
Average Queue (ft)	145	39	320	162	233
95th Queue (ft)	245	69	632	196	498
Link Distance (ft)	1346		725		533
Upstream Blk Time (%)			0		1
Queuing Penalty (veh)			3		7
Storage Bay Dist (ft)		400		150	
Storage Blk Time (%)				23	2
Queuing Penalty (veh)				99	4

Intersection: 4: Hammatt Ave & F St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	329	99	301	304
Average Queue (ft)	162	38	123	115
95th Queue (ft)	265	85	237	229
Link Distance (ft)	2225	1091	2524	725
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Access & Campbell Blvd

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	LR
Maximum Queue (ft)	30	10	109	64	144
Average Queue (ft)	2	1	23	4	64
95th Queue (ft)	16	8	81	33	116
Link Distance (ft)	163	163	110	110	269
Upstream Blk Time (%)			1	0	
Queuing Penalty (veh)			1	0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Central Access/Industrial Rd & Campbell Blvd

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	42	38	45	5	171	46
Average Queue (ft)	6	2	3	0	68	22
95th Queue (ft)	27	18	20	3	130	46
Link Distance (ft)	110	110	274	274	264	603
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 7: East Access & Campbell Blvd

Movement	NB
Directions Served	LR
Maximum Queue (ft)	82
Average Queue (ft)	35
95th Queue (ft)	63
Link Distance (ft)	249
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 248

1: Hammatt Ave & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.6	0.0	0.1	0.5	0.4
Total Del/Veh (s)	15.7	18.4	15.3	28.0	18.5

2: Hammatt Ave & SR99 NB Ramps Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	2.2	0.0	0.0	0.5
Total Del/Veh (s)	22.1	10.5	17.0	15.8

3: Hammatt Ave & SR99 SB Ramps Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.5	0.0	0.0	0.4
Total Del/Veh (s)	23.2	44.5	27.5	31.7

4: Hammatt Ave & F St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.3	0.2	0.3	0.0	0.1
Total Del/Veh (s)	28.9	12.2	11.8	11.9	15.3

5: West Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.1
Total Del/Veh (s)	0.8	2.2	14.9	2.5

6: Central Access/Industrial Rd & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	0.7	0.4	9.4	5.2	1.5

7: East Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.1	0.2	0.1
Total Del/Veh (s)	0.4	0.1	6.8	1.3

Total Zone Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	415.2

Intersection: 1: Hammatt Ave & Campbell Blvd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	R	L	T	TR
Maximum Queue (ft)	112	151	157	118	184	308	182	105	200	170
Average Queue (ft)	52	65	108	45	109	110	34	34	109	61
95th Queue (ft)	98	116	174	95	180	223	113	75	181	123
Link Distance (ft)	2167		142	142		346			1170	1170
Upstream Blk Time (%)			9	0		0				
Queuing Penalty (veh)			19	1		1				
Storage Bay Dist (ft)		200			160		160	170		
Storage Blk Time (%)		0			1	2	0	0	2	
Queuing Penalty (veh)		0			7	8	0	0	1	

Intersection: 2: Hammatt Ave & SR99 NB Ramps

Movement	WB	WB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	R
Maximum Queue (ft)	213	207	155	168	366	156
Average Queue (ft)	101	96	71	42	177	38
95th Queue (ft)	175	173	129	115	319	100
Link Distance (ft)	1195			533	346	346
Upstream Blk Time (%)					1	0
Queuing Penalty (veh)					5	0
Storage Bay Dist (ft)		500	150			
Storage Blk Time (%)			0	0		
Queuing Penalty (veh)			2	0		

Intersection: 3: Hammatt Ave & SR99 SB Ramps

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	328	178	565	174	544
Average Queue (ft)	170	57	301	144	186
95th Queue (ft)	279	121	516	201	489
Link Distance (ft)	1346		725		533
Upstream Blk Time (%)			0		1
Queuing Penalty (veh)			0		10
Storage Bay Dist (ft)		400		150	
Storage Blk Time (%)	0	0		16	3
Queuing Penalty (veh)	0	0		72	9

Intersection: 4: Hammatt Ave & F St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	256	129	268	365
Average Queue (ft)	132	46	96	163
95th Queue (ft)	220	97	189	311
Link Distance (ft)	2225	1091	2524	725
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Access & Campbell Blvd

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	LR
Maximum Queue (ft)	30	32	130	42	141
Average Queue (ft)	2	2	16	2	55
95th Queue (ft)	16	21	75	23	106
Link Distance (ft)	142	142	183	183	430
Upstream Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Central Access/Industrial Rd & Campbell Blvd

Movement	EB	EB	WB	NB	SB
Directions Served	LT	TR	LT	LTR	LTR
Maximum Queue (ft)	48	13	34	136	42
Average Queue (ft)	9	1	1	55	20
95th Queue (ft)	35	8	13	103	45
Link Distance (ft)	183	183	250	628	792
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: East Access & Campbell Blvd

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	10	81
Average Queue (ft)	0	36
95th Queue (ft)	6	62
Link Distance (ft)		604
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 135

1: Hammatt Ave & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	2.4	0.0	0.0	0.6	0.5
Total Del/Veh (s)	20.4	31.5	21.2	43.1	28.5

2: Hammatt Ave & SR99 NB Ramps Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	2.7	0.0	0.0	0.6
Total Del/Veh (s)	29.7	15.6	12.8	17.6

3: Hammatt Ave & SR99 SB Ramps Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.2	0.4	0.3	0.5
Total Del/Veh (s)	30.2	40.5	31.5	34.9

4: Hammatt Ave & F St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.3	0.1	0.3	0.0	0.2
Total Del/Veh (s)	34.5	10.1	12.3	10.1	16.2

5: West Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.1	2.2	0.3
Total Del/Veh (s)	0.9	5.1	51.6	7.4

6: Central Access/Industrial Rd & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	0.6	1.1	12.2	5.5	2.4

7: East Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.1	0.2	0.1
Total Del/Veh (s)	0.4	0.2	5.7	1.4

Total Zone Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	462.9

Intersection: 1: Hammatt Ave & Campbell Blvd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	R	L	T	TR
Maximum Queue (ft)	151	126	180	139	220	372	220	206	280	241
Average Queue (ft)	54	57	157	50	178	155	46	59	167	114
95th Queue (ft)	116	102	204	104	248	354	138	139	261	196
Link Distance (ft)	1669		163	163		360			1002	1002
Upstream Blk Time (%)			24	0		1				
Queuing Penalty (veh)			50	0		13				
Storage Bay Dist (ft)		200			160		160	170		
Storage Blk Time (%)	0				17	1	0	0	11	
Queuing Penalty (veh)	1				91	8	0	0	7	

Intersection: 2: Hammatt Ave & SR99 NB Ramps

Movement	WB	WB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	R
Maximum Queue (ft)	160	322	173	272	346	124
Average Queue (ft)	79	156	106	75	132	34
95th Queue (ft)	140	283	172	210	283	82
Link Distance (ft)	1195			533	360	360
Upstream Blk Time (%)					1	
Queuing Penalty (veh)					2	
Storage Bay Dist (ft)		500	150			
Storage Blk Time (%)			3	1		
Queuing Penalty (veh)			19	2		

Intersection: 3: Hammatt Ave & SR99 SB Ramps

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	260	98	690	175	536
Average Queue (ft)	140	40	355	159	267
95th Queue (ft)	227	76	627	201	571
Link Distance (ft)	1346		725		533
Upstream Blk Time (%)			0		2
Queuing Penalty (veh)			3		16
Storage Bay Dist (ft)		400		150	
Storage Blk Time (%)				22	3
Queuing Penalty (veh)				98	10

Intersection: 4: Hammatt Ave & F St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	264	98	368	320
Average Queue (ft)	161	33	128	119
95th Queue (ft)	241	75	266	238
Link Distance (ft)	2225	1091	2524	725
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Access & Campbell Blvd

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	LR
Maximum Queue (ft)	16	28	126	82	289
Average Queue (ft)	0	1	44	2	100
95th Queue (ft)	6	10	118	26	218
Link Distance (ft)	163	163	110	110	269
Upstream Blk Time (%)			3	0	3
Queuing Penalty (veh)			5	0	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Central Access/Industrial Rd & Campbell Blvd

Movement	EB	EB	WB	NB	SB
Directions Served	LT	TR	LT	LTR	LTR
Maximum Queue (ft)	43	37	64	150	51
Average Queue (ft)	6	3	6	62	19
95th Queue (ft)	27	24	36	113	44
Link Distance (ft)	110	110	274	264	603
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: East Access & Campbell Blvd

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	21	81
Average Queue (ft)	1	36
95th Queue (ft)	13	61
Link Distance (ft)		249
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 324

1: Hammatt Ave & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.8	0.0	0.1	0.6	0.4
Total Del/Veh (s)	20.2	25.4	20.1	33.2	23.7

2: Hammatt Ave & SR99 NB Ramps Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	2.3	0.0	0.1	0.6
Total Del/Veh (s)	26.3	16.9	18.6	19.8

3: Hammatt Ave & SR99 SB Ramps Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.4	0.0	0.0	0.4
Total Del/Veh (s)	28.5	37.2	37.4	34.7

4: Hammatt Ave & F St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.3	0.2	0.3	0.0	0.1
Total Del/Veh (s)	31.0	11.7	13.4	11.4	15.7

5: West Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.2	12.7	1.1
Total Del/Veh (s)	0.8	5.7	55.5	7.1

6: Central Access/Industrial Rd & Campbell Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	0.7	1.1	10.2	5.1	1.9

7: East Access & Campbell Blvd Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.4	0.1	7.3	1.4

Total Zone Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	596.8

Intersection: 1: Hammatt Ave & Campbell Blvd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	R	L	T	TR
Maximum Queue (ft)	155	168	160	138	184	338	185	167	257	207
Average Queue (ft)	62	74	133	58	132	178	61	46	125	70
95th Queue (ft)	121	133	178	116	206	321	170	114	221	140
Link Distance (ft)	2167		142	142		346			1170	1170
Upstream Blk Time (%)			19	1		1				
Queuing Penalty (veh)			41	2		8				
Storage Bay Dist (ft)		200			160		160	170		
Storage Blk Time (%)	0				3	6	0		4	
Queuing Penalty (veh)	0				24	31	1		2	

Intersection: 2: Hammatt Ave & SR99 NB Ramps

Movement	WB	WB	NB	NB	SB	SB
Directions Served	LT	R	L	T	T	R
Maximum Queue (ft)	258	255	174	400	356	217
Average Queue (ft)	109	123	94	119	201	46
95th Queue (ft)	194	221	167	304	361	131
Link Distance (ft)	1195			533	346	346
Upstream Blk Time (%)				0	3	0
Queuing Penalty (veh)				0	11	1
Storage Bay Dist (ft)		500	150			
Storage Blk Time (%)			1	6		
Queuing Penalty (veh)			7	8		

Intersection: 3: Hammatt Ave & SR99 SB Ramps

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	344	119	566	174	547
Average Queue (ft)	208	57	266	157	311
95th Queue (ft)	321	102	484	206	593
Link Distance (ft)	1346		725		533
Upstream Blk Time (%)					3
Queuing Penalty (veh)					22
Storage Bay Dist (ft)		400		150	
Storage Blk Time (%)	0			28	5
Queuing Penalty (veh)	0			129	15

Intersection: 4: Hammatt Ave & F St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	259	112	255	465
Average Queue (ft)	140	43	113	159
95th Queue (ft)	233	90	214	340
Link Distance (ft)	2225	1091	2524	725
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Access & Campbell Blvd

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	LR
Maximum Queue (ft)	20	10	158	106	248
Average Queue (ft)	1	1	40	7	86
95th Queue (ft)	10	7	129	53	249
Link Distance (ft)	142	142	183	183	430
Upstream Blk Time (%)			2	0	4
Queuing Penalty (veh)			4	0	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Central Access/Industrial Rd & Campbell Blvd

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	44	6	70	24	129	53
Average Queue (ft)	8	0	4	0	52	23
95th Queue (ft)	32	5	35	3	102	47
Link Distance (ft)	183	183	250	250	628	792
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 7: East Access & Campbell Blvd

Movement	NB
Directions Served	LR
Maximum Queue (ft)	85
Average Queue (ft)	37
95th Queue (ft)	63
Link Distance (ft)	604
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 305

Exhibit B

3022

MERCED SUN-STAR www.mercedsunstar.com
LOS BANOS ENTERPRISE www.losbanosenterprise.com
CHOWCHILLA NEWS www.chowchillanews.com
Livingston Chronicle
Atwater Signal
Vida en el valle

AFFIDAVIT OF PUBLICATION

Account #	Ad Number	Identification	PO	Amount	Cols	Depth
600328	0004838981	City of Livingston 1416 C Street Livingston, CA 95	Legal Notice	$207.38	2	4.42 In

Attention: Amy Gartin

BASECAMP ENVIRONMENTAL, INC.
802 WEST LODI AVENUE
LODI, CA 95240

City of Livingston
1416 C Street
Livingston, CA 95334
Attn: Randy Hatch

NOTICE OF INTENT TO ADOPT MITIGATED NEGATIVE DECLARATION AND NOTICE OF PUBLIC MEETING

Notice is hereby given that the City of Livingston has prepared an Initial Study (IS) of environmental effects and intends to adopt a Mitigated Negative Declaration (MND) for the Livingston Truck Stop Complex. The City of Livingston is the Lead Agency for this project under the California Environmental Quality Act (CEQA).

The project proposes to develop approximately 18.9 acres of currently vacant property as a travel center that would serve trucks and passenger vehicles, primarily those traveling on nearby State Route (SR) 99. Nine fuel dispensers serving trucks and ten fuel dispensers serving passenger vehicles would be installed, each dispenser with two pumps. Subsequent development would add three quick-serve restaurants with associated parking. A storm drainage retention basin would be constructed at the eastern end of the project site.

The IS/MND analyzes the potential environmental effects of the project in the environmental issue areas specified in CEQA and the State CEQA Guidelines. On the basis of this analysis, the IS/MND finds that the project will not involve any significant environmental effects, provided that the mitigation measures described in the IS/MND are implemented. The project proponent has agreed to the mitigation measures, and these measures will be included in a Mitigation Monitoring/Reporting Plan to be adopted by the City of Livingston in conjunction with the IS/MND and approval of the project. There are no sites identified under Section 65962.5 of the Government Code located on or near the project site.

Copies of the IS/MND are available for public review at the City of Livingston Planning Department at the address shown above and at the City's website: https://www.livingstoncity.org. The City will accept public and agency comments on the IS/MND during a 20-day review period that will begin on December 30, 2020 and end on January 19, 2021. Comments may be submitted by mail or e-mail to the City at the address shown above or to rha tch@livingstoncity.com and file@livingstoncity.com.

In addition, notice is hereby given that the Livingston Planning Commission will consider the IS/MND and the Mitigation Monitoring/Reporting Plan at a public meeting scheduled for February 9, 2021 at 7:00 pm in the City Council Chambers, 1416 "C" Street, Livingston, California.

Randy Hatch, Contract City Planner
December 30, 2020

Declaration of Publication
2015.5 C.C.P.

STATE OF CALIFORNIA)
) **ss.**
County of Merced)

I am a citizen of the United States; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of the printer of the Merced Sun-Star, a newspaper of general circulation, printed and published in the city of Merced, County of Merced, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Merced, State of California, under the date of July 14, 1964 Case Number 33224 that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

December 30, 2020

V Rodela
Legal Clerk

I certify (or declare) under penalty of perjury that the foregoing is true and correct and that this declaration was executed at Dallas, Texas on

Date: 30th day of December, 2020

Notary Signature

AMANDA DAWN GRISHAM
My Notary ID # 132031326
Expires May 30, 2023

Exhibit C

MITIGATION MONITORING/ REPORTING PROGRAM

FOR THE

LIVINGSTON TRUCK STOP COMPLEX

Livingston, Ca.

August 2022

Prepared for:

City of Livingston
1416 C Street
Livingston, CA 95334

Prepared by:

BaseCamp Environmental, Inc.
802 W. Lodi Avenue
Lodi, CA 95240
209-224-8213

BaseCamp Environmental

MITIGATION MONITORING/REPORTING PROGRAM
FOR THE
LIVINGSTON TRUCK STOP COMPLEX
Livingston, CA

1.0 INTRODUCTION

The City of Livingston California (City) is considering adoption of an Initial Study/Mitigated Negative Declaration (IS/MND) for and approval of the Livingston Truck Stop Complex (the "project"). This document is the accompanying Mitigation Monitoring/Reporting Program (MMRP) for the project, which will be adopted by the City in conjunction with the IS/MND and consideration of the proposed project. The primary source document for the MMRP is the Final IS/MND, a separate document.

1.1 THE PROJECT

The project proposes to develop approximately 18.9 acres of currently vacant property as a travel center that would serve trucks and passenger vehicles, primarily those traveling on nearby State Route (SR) 99. The project would initially construct a travel center building that includes a convenience store and a quick-serve restaurant and a second building that would house a tire center and space for another quick-serve restaurant. Nine fuel dispensers serving trucks and ten fuel dispensers serving passenger vehicles would be installed, each dispenser with two pumps. Subsequent development would add three quick-serve restaurants with associated parking. A storm drainage retention basin would be constructed at the eastern end of the project site. The project would require a Conditional Use Permit (CUP) and site plan and design review approvals.

1.2 CEQA REQUIREMENTS REGARDING MITIGATION MONITORING AND REPORTING

To ensure that mitigation measures included in an IS/MND are implemented, CEQA requires the adoption of a mitigation monitoring and/or reporting program (CEQA Guidelines Section 15074). The Guidelines require that the lead agency:

> " . . . adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to mitigate or avoid significant environmental effects."

These requirements are met by the Mitigation Monitoring/Reporting Program table for the project shown in Section 2.0 of this document. The table lists all of the potentially significant environmental effects of the project as identified in the Final IS/MND,

identifies all of the mitigation measures needed to reduce these effects to a less than significant level, and identifies the entities that would be responsible for implementing and monitoring implementation of the mitigation measures.

2.0 MITIGATION MONITORING/REPORTING PLAN

The following table summarizes the significant environmental effects that could result from approval of the Livingston Truck Stop Complex, based on the analysis contained in the IS/MND. The table identifies 1) each significant effect, 2) how each significant effect would be mitigated, 3) the responsibility for implementation of the mitigation measures, and 4) the responsibility for monitoring of mitigation measures. The table follows the same sequence as the impact analysis in the IS/MND. Environmental issue areas where no significant effect would occur are also listed for the sake of continuity.

IMPACT/MITIGATION MEASURES	IMPLEMENTATION RESPONSIBILITY AND TIMING/SCHEDULE	MONITORING/REPORTING RESPONSIBILITY	SOURCE INFORMA-TION
3.1 AESTHETICS			
The IS/MND does not identify significant effects or mitigation measures in this issue area.			
3.2 AGRICULTURE RESOURCES			
The IS/MND does not identify significant effects or mitigation measures in this issue area.			
3.3 AIR QUALITY			
The IS/MND does not identify significant effects or mitigation measures in this issue area.			
3.4 BIOLOGICAL RESOURCES			
The IS/MND does not identify significant effects or mitigation measures in this issue area.			
3.5 CULTURAL RESOURCES			
Potential Impacts on Historical and Archeological Resources.			
CULT-1 If any subsurface cultural resources are encountered during construction of the project, the City of Livingston Community Development Department shall be notified and all construction activities in the vicinity of the encounter shall be halted until a qualified archaeologist can examine these materials and determine their significance. If the find is determined to be significant, then the archaeologist shall recommend further mitigation measures that would reduce potential effects on the find to a level that is less than significant. Recommended measures may include, but are not limited to, 1) preservation in place, or 2) excavation, recovery, and curation by qualified professionals. The project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation	Developer will be responsible for retaining archaeologist to examine cultural resources if encountered. Archaeologist will specify actions needed to protect resources as required. Developer will implement archaeologist recommendations.	Community Development Department will oversee archaeologist study and implementation of recommendations.	IS/MND, Section 3.5

IMPACT/MITIGATION MEASURES	IMPLEMENTATION RESPONSIBILITY AND TIMING/SCHEDULE	MONITORING/REPORTING RESPONSIBILITY	SOURCE INFORMA-TION
measures, and documenting mitigation efforts in a written report to the City's Community Development Department, consistent with the requirements of the CEQA Guidelines.			
Potential Impacts on Human Burials			
CULT-2: If project construction encounters evidence of human burial or scattered human remains, the contractor shall immediately notify the County Coroner and the City, which shall in turn notify the appropriate tribal representatives. The City shall notify other federal and State agencies as required. The City will be responsible for compliance with the requirements of California Health and Safety Code Section 7050.5 and with any direction provided by the County Coroner. If the human remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission, which will notify and appoint a Most Likely Descendant. The Most Likely Descendant shall work with the City and a qualified archaeologist to decide the proper treatment of the human remains and any associated funerary objects in accordance with California Public Resources Code Sections 5097.98 and 5097.991. Avoidance is the preferred means of disposition of the burial resources.	Same as CULT-1. Developer will be responsible for immediate notification of the identified agencies.	Community Development Department will respond to notification and oversee required activities pursuant thereto.	IS/MND, Section 3.5
3.6 ENERGY			
The IS/MND does not identify significant effects or mitigation measures in this issue area.			
3.7 GEOLOGY AND SOILS			
Potential Impacts on Soil Erosion			
GEO-1 Prior to commencement of construction activity, the developer shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for the project and file a Notice of Intent with the State Water Resources Control Board (SWRCB) in compliance with the Construction General Permit and City of Livingston storm water	Developer will be responsible for preparation and implementation of SWPPP requirements.	Public Works Department will be responsible for overseeing compliance with SWRCB requirements.	IS/MND, Section 3.7

IMPACT/MITIGATION MEASURES		IMPLEMENTATION RESPONSIBILITY AND TIMING/SCHEDULE	MONITORING/REPORTING RESPONSIBILITY	SOURCE INFORMA-TION
	requirements. The SWPPP shall be available on the construction site at all times. The developer shall incorporate an Erosion Control Plan consistent with all applicable provisions of the SWPPP within the site improvement and building plans. The developer also shall submit the SWRCB Waste Discharger's Identification Number to the City prior to approval of development or grading plans.			
Potential Impacts on Paleontological Resources and Unique Geological Features				
GEO-2	If any subsurface paleontological resources are encountered during construction of the project, the City of Livingston Community Development Department shall be notified and all construction activities in the vicinity of the encounter shall be halted until a qualified paleontologist can examine these materials and determine their significance. If the find is determined to be significant, then the paleontologist shall recommend mitigation measures that would reduce potential effects on the find to a level that is less than significant. Recommended measures may include, but are not limited to, 1) preservation in place, or 2) excavation, recovery, and curation by qualified professionals. The project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in a written report to the City's Community Development Department, consistent with the requirements of the CEQA Guidelines.	Developer will be responsible for retaining paleontologist to examine resources if encountered. Paleontologist will specify actions needed to protect resources as required. Developer will implement paleontologist recommendations.	Community Development Department will oversee paleontologist study and implementation of recommendations.	IS/MND, Section 3.7
3.8 GREENHOUSE GAS EMISSIONS				
The IS/MND does not identify significant effects or mitigation measures in this issue area.				
3.9 HAZARDS AND HAZARDOUS MATERIALS				
The IS/MND does not identify significant effects or mitigation measures in this issue area.				

414

IMPACT/MITIGATION MEASURES	IMPLEMENTATION RESPONSIBILITY AND TIMING/SCHEDULE	MONITORING/REPORTING RESPONSIBILITY	SOURCE INFORMA-TION
3.10 HYDROLOGY AND WATER QUALITY			
Potential Impacts on Surface Water Quality			
HYDRO-1 The developer shall submit a Storm Water Quality Plan for the project that shall include post-construction Best Management Practices (BMPs) as required by the City's Storm Water Management Program. The Storm Water Quality Plan shall be reviewed and approved by the City of Livingston Public Works Department prior to approval of project improvement plans. HYDRO-2 If required, the developer shall execute a Maintenance Agreement with the City for stormwater BMPs prior to receiving a Certificate of Occupancy. The developer shall remain the responsible party and provide funding for the operation, maintenance and replacement costs of the proposed treatment devices built for the project. HYDRO-3 The developer shall comply with applicable requirements of, and pay all associated fees as required by, the City's Storm Water Pollution Prevention Program as set forth in its NPDES Storm Water Permit.	The developer will be responsible for submittal of storm water quality plans, execution of a maintenance agreement and compliance with other Storm Water Quality Control Plan requirements.	The Department of Public Works will be responsible for review and approval of storm water quality plans and ensuring that required signatures and fee payments are submitted by the developer.	IS/MND, Section 3.10
3.11 LAND USE AND PLANNING			
The IS/MND does not identify significant effects or mitigation measures in this issue area.			
3.12 MINERAL RESOURCES			
The IS/MND does not identify significant effects or mitigation measures in this issue area.			

IMPACT/MITIGATION MEASURES	IMPLEMENTATION RESPONSIBILITY AND TIMING/SCHEDULE	MONITORING/REPORTING RESPONSIBILITY	SOURCE INFORMATION
3.13 NOISE			
The IS/MND does not identify significant effects or mitigation measures in this issue area.			
3.14 POPULATION AND HOUSING			
The IS/MND does not identify significant effects or mitigation measures in this issue area.			
3.15 PUBLIC SERVICES			
The IS/MND does not identify significant effects or mitigation measures in this issue area.			
3.16 RECREATION			
The IS/MND does not identify significant effects or mitigation measures in this issue area.			
3.17 TRANSPORTATION			
Conflict with Applicable Plans, Ordinances and Policies			
TRANS-1 The project applicant or successors in interest shall be required to pay fair-share costs of a traffic signal at the Hammatt Avenue/Campbell Boulevard intersection. TRANS-2: The project applicant or successors in interest shall be required to pay fair-share costs of traffic signals or roundabouts at the Hammatt Avenue intersections with the SR 99 northbound ramps and the SR 99 southbound ramps. The project applicant or successors in interest shall be required to pay fair-share costs of preparing a preliminary Intersection Control Evaluation report to provide a screening assessment of the feasibility of a roundabout or traffic signal at the SR 99 ramps intersections.	Developer will be responsible for payment of proportional share costs of transportation improvements as required by the Livingston City Council.	The Department of Public Works will be responsible for review, approval and inspection of improvements required by the Livingston City Council.	IS/MND, Section 3.17

IMPACT/MITIGATION MEASURES	IMPLEMENTATION RESPONSIBILITY AND TIMING/SCHEDULE	MONITORING/REPORTING RESPONSIBILITY	SOURCE INFORMA-TION
TRANS-3 The project applicant or successors in interest shall be required to pay fair-share costs of the addition of an eastbound right-turn lane, approximately 200 feet in length, on Campbell Boulevard with right turn overlap phases on the northbound-to-eastbound and eastbound-to-southbound movements. TRANS-4 The project applicant or successors in interest shall install frontage improvements along Campbell Boulevard, including sidewalks, during Phase 1 development of the project site.			
Traffic Hazards			
TRANS-5 Improvements to the Hammatt Avenue/ Campbell Boulevard intersection shall be designed to accommodate STAA trucks, and the project shall contribute its fair share to the cost of those features. Project access shall be designed to accommodate STAA trucks. Phase 1 shall contribute its fair share to the cost of a Caltrans STAA route designation application to be completed by the City and shall contribute its fair share to the cost of improvements needed to accommodate STAA trucks.	Developer will be responsible for payment of proportional share costs of transportation improvements as required by the Livingston City Council.	The Department of Public Works will be responsible for review, approval and inspection of improvements required by the Livingston City Council.	IS/MND, Section 3.17
3.18 TRIBAL CULTURAL RESOURCES			
Potential Impacts on Historical and Archeological Resources.			
Same as CULT-1			

IMPACT/MITIGATION MEASURES	IMPLEMENTATION RESPONSIBILITY AND TIMING/SCHEDULE	MONITORING/REPORTING RESPONSIBILITY	SOURCE INFORMA-TION
Potential Impacts on Human Burials			
Same as CULT-2			
3.19 UTILITIES AND SERVICE SYSTEMS			
The IS/MND does not identify significant effects or mitigation measures in this issue area.			
3.20 WILDFIRE			
Potential Impacts on Emergency Response Plans and Emergency Evacuation Plans.			
3.21 MANDATORY FINDINGS OF SIGNIFICANCE			
Findings on Cultural Resources			
Same as CULT-1 and CULT-2			
Findings on Cumulative Transportation Impacts			
CUMUL-1 The project applicant or successors in interest shall be required to pay fair-share costs of improvements at the Hammatt Avenue/Campbell Boulevard intersection as described in Mitigation Measures TRANS-1 and TRANS-3, along with an addition of a westbound left-turn lane on Campbell Boulevard east of Hammatt Avenue, a conversion of the southbound right-turn lane to a through/right-turn lane, and the addition of a northbound-to-eastbound overlap phase. CUMUL-2 The project applicant or successors in interest shall be required to pay fair-share costs of traffic signals or	Developer will be responsible for payment of proportional share costs of transportation improvements as required by the Livingston City Council.	The Department of Public Works will be responsible for review, approval and inspection of improvements required by the Livingston City Council.	IS/MND, Section 3.17

IMPACT/MITIGATION MEASURES	IMPLEMENTATION RESPONSIBILITY AND TIMING/SCHEDULE	MONITORING/REPORTING RESPONSIBILITY	SOURCE INFORMA-TION
roundabouts at the Hammatt Avenue intersections with the SR 99 northbound ramps and the SR 99 southbound ramps as described in Mitigation Measure TRANS-2, along with the construction of a southbound right-turn lane on Hammett Avenue that extends to Campbell Boulevard. CUMUL-3 The project applicant or successors in interest shall. be required to pay fair-share costs of a traffic signal at the Hammatt Avenue/F Street intersections. CUMUL-4 The project applicant or successors in interest shall select and implement one of two alternatives related to traffic queuing at the western driveway: 1) Reconfiguration of the westbound Campbell Boulevard approach to allow left turns from two lanes. This change would equalize traffic volumes in each lane and reduce the queue lengths. This would require that the layout of the Hammatt Avenue/Campbell Boulevard intersection be wider to accommodate the concurrent turning paths of two STAA trucks. The project applicant or successors in interest shall be required to pay fair-share costs of improvements proposed by this alternative. 2) Left turns at the western driveway shall be prohibited. If determined to be needed by the City, the project proponents shall fund construction of a median treatment or other measure acceptable to the City to prohibit left turns.			
Findings on Adverse Effects on Human Beings			
Addressed by Mitigation Measures TRANS-1 to TRANS-5			

RESOLUTION 2022-07

RESOLUTION OF THE CITY OF LIVINGSTON PLANNING COMMISSION RECOMMENDING TO THE CITY COUNCIL APPROVING OF CONDITIONAL USE PERMIT 2020-02 FOR THE SGM MOONGLO TRUCK STOP COMPLEX AT THE SOUTHEAST CORNER OF CAMPBELL BOULEVARD AND HAMMATT AVENUE

WHEREAS, pursuant to Livingston Municipal Code ("LMC") section 5-6-9 (F), Rod Hawkins of Hawkins and Associates Engineering Inc., on behalf of SGM Moonglo, Inc., Property Owners, applied for a Conditional Use Permit for a Truck Travel Center that includes five quick service restaurants, three with a drive-thru, fuel dispensing stations for passenger and tractor trailer vehicles and associated travel center facilities, at the southeast corner of Campbell Boulevard and Hammatt Ave, (APN Nos. 023-070-012, 023-070-013, 023-070-014, and 023-060-010), in the City of Livingston; and

WHEREAS, the site is zoned C-3 (Highway Service Commercial), PF, Public or Quasi-public facilities, and has a General Plan designation of Highway Commercial, Service Commercial, and Public Facility according to the official zoning map of the City of Livingston and the 1999 Livingston General Plan; and

WHEREAS, LMC Section 5-6-9 requires a Conditional Use Permit for "certain land uses that generally have a distinct impact on the area in which they are located, and/or are capable of creating special problems for bordering properties unless given special attention"; and the proposed gasoline service station and quick service restaurant with drive through are ones of the so identified land uses; and

WHEREAS, a public hearing for the proposed project has been properly noticed by posting, a newspaper ad, and a mailing to adjacent properties within 300 feet of the site; and

WHEREAS, Staff has reviewed the project with reference to the 1999 General Plan, the Zoning Ordinance, and the adopted Livingston Design Guidelines; and finds that, based on the evidence documented within the associated staff report and proceedings of the public hearing, the proposed uses in Phase 1 of the project are consistent with the General Plan, as conditioned, complies with the Zoning Ordinance in that the proposed use meets the zoning standards and requirements and is compatible with the surrounding uses, and meets the intent and guidance of the Livingston Design Guidelines; and

WHEREAS, the site for the proposed use is adequate in size and shape to accommodate said use and, as conditioned, all yards, spaces, wall and fences, parking, loading, landscaping, and other features required by the applicable zoning district are met; and

WHEREAS, the site, as conditioned, for the proposed use is served by streets adequate to carry the quantity and kind of traffic generated by the proposed use; and

WHEREAS, public facilities, as conditioned, are currently adequate to serve the proposed use; and

WHEREAS, the Planning Commission has considered the environmental effects of the project and has adopted a Mitigated Negative Declaration and adopted a Mitigated Monitoring/Reporting Program.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission adopts Resolution 2022-07, Recommending approval of Conditional Use Permit 2020-02, with Conditions of Approval attached as Exhibits A and B to the City Council.

The foregoing resolution was introduced and moved for adoption on August 9, 2022, by _____, and being duly seconded by _____, was passed by the following vote:

AYES:
NOES:
ABSENT:

ATTEST:

_____
Chair, ROBERT WALLIS

_____
Secretary of the Planning Commission,
MIGUEL GALVEZ

Exhibit A
Conditions of Approval

1. The Developer shall comply with all federal, state and local laws, policies, standards and requirements applicable to this use and obtain a building permit and all other permits applicable to this use and shall pay all fees and exactions applicable to such a use; and

2. The Developer shall comply with all the conditions of the associated Site Plan and Design Review Permit 2020-02 Resolution of Approval; and

3. The Developer shall repair any damage to City facilities such as curb, gutter, sidewalk, streets and alleys caused by construction; and

4. The Developer shall indemnify, defend and hold harmless the City and its officials, officers, employees, agents, and consultants from any and all legal or administrative actions or other proceedings challenging this approval or any subsequent approval associated with this project; and

5. The development of the site shall be consistent with approved plans, elevations, and colors. Provisions shall be made to accommodate bicycle parking. Minor variations from approved plans, elevations, and colors may be allowed at the review and approval of City staff; and

6. The developer and/or operator shall submit a signage plan for all exterior signs (including for each of the proposed quick service restaurants) for Planning administrative review and approval consistent with the submitted site plan and City's signage regulations prior to obtaining a sign permit from the Building Division; and

7. The developer and/or operator shall submit final landscape plans for City staff review and approval, specifying plant selection, size and irrigation consistent with the preliminary landscape concept submitted as part of the application and described in the associated staff report and shall pay the landscape plan review and inspection fee to insure installation was done according to approved plans; Such plans shall be reviewed and approved by a Licensed Landscaped Architect for compliance with the City's Water Efficiency Landscape Ordinance before a building permit can be issued and

8. All exterior lighting fixtures shall be noted on an exterior lighting plan subject to staff review and approval, and such lighting shall be shielded and directed to areas on the subject property itself and shall avoid shinning toward adjacent properties and State Route 99; and

9. The developer and/or operator shall comply with the 33 conditions listed in the Memo dated August 2, 2022, from City Engineer Mario Gouveia to Contract City Planner Miguel Galvez. The time period for compliance with conditions 15, 16, and 17 as listed in the memo noted above shall be 7 years after the Certificate of Occupancy is issued for the convenience store/cashiers area; and

10. The Developer and/or operator shall submit the plans for the trash enclosures for City staff review and approval after access to the enclosures have been approved by Gilton Solid Waste Management; and

11. The Developer and/or operator shall keep the site free from trash and debris and shall maintain the premises in a clean and orderly manner; and

12. Before development of Phase 2 project components can be constructed, rezoning the property's PF zoning and general plan designations will need to be rezoned to C-3, Service Highway Commercial shall be completed; and

13. Design and development of new storm water basin shall be as approved by the City Engineer. A new easement for the new storm water basin must be accepted by the City before the existing utility easement for the existing storm water basin can be abandoned.

14. The Developer and/or operator shall complete and record approved Lot Line Adjustment Application No. LLA 2020-02 before a building permit can be issued for development of the site.

15. The Developer shall include fire sprinklers in the development consistent with the requirements of the Merced County Fire Department and shall comply with other Fire Department requirements and standards including paying for, on a proportionate fair share basis, the cost for installing an OptiCom System at the Hammatt Avenue and Campbell Boulevard intersection.

16. Truck parking on Campbell Boulevard adjacent to the property shall be prohibited.

17. The Developer shall annex this Project site into the Community Facilities District (CFD) No. 2017-1 prior to the issuance of the Certificate of Occupancy, including payment of administrative costs associated with the annexation process.

18. Building permits are required and the project must conform to the California Code of Regulations, Title 24

The following Mitigation Measures were identified in the project's initial study/Mitigated Negative Declaration and are hereby included as Conditions of Approval. Any proposed amendments to the following conditions will require amendment, review and approval of a new environmental assessment in compliance with the California Environmental Quality Act.

19. CULT-1 If any subsurface cultural resources are encountered during construction of the project, the City of Livingston Community Development Department shall be notified and all construction activities in the vicinity of the encounter shall be halted until a qualified archaeologist can examine these materials and determine their significance. If the find is determined to be significant, then the archaeologist shall recommend further mitigation measures that would reduce potential effects on the find to a level that is less than significant. Recommended measures may include, but are not limited to, 1) preservation in place, or 2) excavation, recovery, and curation by qualified professionals. The project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in a written report to the City's Community Development Department, consistent with the requirements of the CEQA Guidelines.

20. CULT-2: If project construction encounters evidence of human burial or scattered human remains, the contractor shall immediately notify the County Coroner and the City, which shall in turn notify the appropriate tribal representatives. The City shall notify other federal and State agencies as required. The City will be responsible for compliance with the requirements of California Health and Safety Code Section 7050.5 and with any direction provided by the

County Coroner. If the human remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission, which will notify and appoint a Most Likely Descendant. The Most Likely Descendant shall work with the City and a qualified archaeologist to decide the proper treatment of the human remains and any associated funerary objects in accordance with California Public Resources Code Sections 5097.98 and 5097.991. Avoidance is the preferred means of disposition of the burial resources.

21. GEO-1 Prior to commencement of construction activity, the developer shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for the project and file a Notice of Intent with the State Water Resources Control Board (SWRCB) in compliance with the Construction General Permit and City of Livingston storm water requirements. The SWPPP shall be available on the construction site at all times. The developer shall incorporate an Erosion Control Plan consistent with all applicable provisions of the SWPPP within the site improvement and building plans. The developer also shall submit the SWRCB Waste Discharger's Identification Number to the City prior to approval of development or grading plans

22. GEO-2 If any subsurface paleontological resources are encountered during construction of the project, the City of Livingston Community Development Department shall be notified and all construction activities in the vicinity of the encounter shall be halted until a qualified paleontologist can examine these materials and determine their significance. If the find is determined to be significant, then the paleontologist shall recommend mitigation measures that would reduce potential effects on the find to a level that is less than significant. Recommended measures may include, but are not limited to, 1) preservation in place, or 2) excavation, recovery, and curation by qualified professionals. The project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in a written report to the City's Community Development Department, consistent with the requirements of the CEQA Guidelines.

23. HYDRO-1 The developer shall submit a Storm Water Quality Plan for the project that shall include post-construction Best Management Practices (BMPs) as required by the City's Storm Water Management Program. The Storm Water Quality Plan shall be reviewed and approved by the City of Livingston Public Works Department prior to approval of project improvement plans.

24. HYDRO-2 If required, the developer shall execute a Maintenance Agreement with the City for storm water BMPs prior to receiving a Certificate of Occupancy. The developer shall remain the responsible party and provide funding for the operation, maintenance and replacement costs of the proposed treatment devices built for the project.

25. HYDRO-3 The developer shall comply with applicable requirements of, and pay all associated fees as required by, the City's Storm Water Pollution Prevention Program as set forth in its NPDES Storm Water Permit.

26. TRANS-1 The project applicant or successors in interest shall be required to pay fair-share costs of a traffic signal at the Hammatt Avenue/Campbell Boulevard intersection.

27. TRANS-2: The project applicant or successors in interest shall be required to pay fair-share costs of traffic signals or roundabouts at the Hammatt Avenue intersections with the SR 99 northbound ramps and the SR 99 southbound ramps. The project applicant or successors in interest shall be required to pay fair-share costs of preparing a preliminary Intersection Control Evaluation report to provide a screening assessment of the feasibility of a roundabout or traffic

signal at the SR 99 ramps intersections.

28. TRANS-3 The project applicant or successors in interest shall be required to pay fair-share costs of the addition of an eastbound right-turn lane, approximately 200 feet in length, on Campbell Boulevard with right turn overlap phases on the northbound-to-eastbound and eastbound-to-southbound movements.

29. TRANS-4 The project applicant or successors in interest shall install frontage improvements along Campbell Boulevard, including sidewalks, during Phase 1 development of the project site.

30. TRANS-5 Improvements to the Hammatt Avenue/ Campbell Boulevard intersection shall be designed to accommodate STAA trucks, and the project shall contribute its fair share to the cost of those features. Project access shall be designed to accommodate STAA trucks. Phase 1 shall contribute its fair share to the cost of a Caltrans STAA route designation application to be completed by the City and shall contribute its fair share to the cost of improvements needed to accommodate STAA trucks.

31. CUMUL-1 The project applicant or successors in interest shall be required to pay fair-share costs of improvements at the Hammatt Avenue/Campbell Boulevard intersection as described in Mitigation Measures TRANS-1 and TRANS-3, along with an addition of a westbound left-turn lane on Campbell Boulevard east of Hammatt Avenue, a conversion of the southbound right-turn lane to a through/right-turn lane, and the addition of a northbound-to-eastbound overlap phase.

32. CUMUL-2 The project applicant or successors in interest shall be required to pay fair-share costs of traffic signals or roundabouts at the Hammatt Avenue intersections with the SR 99 northbound ramps and the SR 99 southbound ramps as described in Mitigation Measure TRANS-2, along with the construction of a southbound right-turn lane on Hammett Avenue that extends to Campbell Boulevard.

33. CUMUL-3 The project applicant or successors in interest shall be required to pay fair-share costs of a traffic signal at the Hammatt Avenue/F Street intersections.

34. CUMUL-4 The project applicant or successors in interest shall select and implement one of two alternatives related to traffic queuing at the western driveway: 1) Reconfiguration of the westbound Campbell Boulevard approach to allow left turns from two lanes. This change would equalize traffic volumes in each lane and reduce the queue lengths. This would require that the layout of the Hammatt Avenue/Campbell Boulevard intersection be wider to accommodate the concurrent turning paths of two STAA trucks. The project applicant or successors in interest shall be required to pay fair-share costs of improvements proposed by this alternative. 2) Left turns at the western driveway shall be prohibited. If determined to be needed by the City, the project proponents shall fund construction of a median treatment or other measure acceptable to the City to prohibit left turns.

RESOLUTION 2022-08

RESOLUTION OF THE CITY OF LIVINGSTON PLANNING COMMISSION RECOMMENDING TO THE CITY COUNCIL APPROVAL OF THE SITE PLAN AND DESIGN REVIEW 2020-02 FOR THE SGM MOONGLO TRUCK STOP COMPLEX AT THE SOUTHEAST CORNER OF CAMPBELL BOULEVARD AND HAMMATT AVENUE (APN NOS. 023-070-012, 023-070-013, 023-070-014, and 023-060-010),

WHEREAS, pursuant to Livingston Municipal Code ("LMC") section 5-6-7, Rod Hawkins of Hawkins and Associates Engineering Inc., on behalf of SGM Moonglo, Inc., Property Owners, applied for a Site Plan and Design Review application for the development of a Truck Travel Center that includes five quick service restaurants, three with a drive-thru, fuel dispensing stations for passenger and tractor trailer vehicles and associated travel center facilities, at the southeast corner of Campbell Boulevard and Hammatt Ave, (APN Nos. 023-070-012, 023-070-013, 023-070-014, and 023-060-010), in the City of Livingston; and

WHEREAS, the site is zoned C-3 (Highway Service Commercial) and PF, Public or Quasi Public Facilities , and has General Plan designation of Highway Commercial, Service Commercial and Public Facility according to the official zoning map of the City of Livingston and the 1999 Livingston General Plan; and

WHEREAS, LMC Section 5-6-7 requires the approval of a Site Plan and Design Review for new structures within the C-3 district to assure compatibility, harmony in appearance in neighborhoods, reduction of negative impacts of nonaesthetic development, and orderly development of the community; and

WHEREAS, a public hearing for the proposed project has been properly noticed by posting, a newspaper ad and a mailing to adjacent properties within 300 feet of the site; and

WHEREAS, the Planning Commission has considered the environmental effects of the project and has adopted a Mitigated Negative Declaration and adopted a Mitigated Monitoring/Reporting Program; and

WHEREAS, Staff has reviewed the project with reference to the 1999 General Plan, the Zoning Ordinance (specifically Sections 5-6-7 "C" thru "E") and the adopted Livingston Design Guidelines; and finds that, based on the evidence documented within the associated staff report and proceedings of the public hearing, the proposed use in Phase 1, its site plan and design, is consistent with the General Plan, complies with the Zoning Ordinance in that the site plan and design meets the zoning standard and requirements (including those specifically referenced above), and meets the intent and guidance of the Livingston Design Guidelines; and

WHEREAS, the Planning Commission has reviewed and considered any and all comments on the Site Plan and Design Review made at the public hearing.

NOW, THEREFORE, BE IT RESOLVED that the Livingston Planning Commission hereby adopts Resolution 2022-08, recommending City Council approval of the Site Plan and Design of the subject new development.

BE IT FURTHER RESOLVED, that the Conditions of Approval within Planning Commission Resolution 2022-08, Exhibit A, are hereby approved.

The foregoing resolution was introduced and moved for adoption on August 9, 2022, by Commissioner _____, and being duly seconded by _____, was passed by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

ATTEST:

_____
Chair, ROBERT WALLIS

_____
Secretary of the Planning Commission,
MIGUEL GALVEZ

Exhibit A
Conditions of Approval

1. The Developer shall comply with all federal, state and local laws, policies, standards and requirements applicable to this use and obtain a building permit and all other permits applicable to this use and shall pay all fees and exactions applicable to such a use; and

2. The Developer shall comply with all the conditions of the associated Conditional Use Permit 2020-02 Resolution of Approval; and

3. The Developer shall repair any damage to City facilities such as curb, gutter, sidewalk, streets and alleys caused by construction; and

4. The Developer shall indemnify, defend and hold harmless the City and its officials, officers, employees, agents, and consultants from any and all legal or administrative actions or other proceedings challenging this approval or any subsequent approval associated with this project; and

5. The development of the site shall be consistent with approved plans, elevations, and colors. Provisions shall be made to accommodate bicycle parking. Minor variations from approved plans, elevations, and colors may be allowed at the review and approval of City staff; and

6. The developer and/or operator shall submit a signage plan for all exterior signs (including for each of the proposed quick service restaurants) for Planning administrative review and approval consistent with the submitted site plan and City's signage regulations prior to obtaining a sign permit from the Building Division; and

7. The developer and/or operator shall submit final landscape plans for City staff review and approval, specifying plant selection, size and irrigation consistent with the preliminary landscape concept submitted as part of the application and described in the associated staff report and shall pay the landscape plan review and inspection fee to insure installation was done according to approved plans; Such plans shall be reviewed and approved by a Licensed Landscaped Architect for compliance with the City's Water Efficiency Landscape Ordinance before a building permit can be issued and

8. All exterior lighting fixtures shall be noted on an exterior lighting plan subject to staff review and approval, and such lighting shall be shielded and directed to areas on the subject property itself and shall avoid shinning toward adjacent properties and State Route 99; and

9. The developer and/or operator shall comply with the 33 conditions listed in the Memo dated August 2, 2022, from City Engineer Mario Gouveia to Contract City Planner Miguel Galvez. The time period for compliance with conditions 15, 16, and 17 as listed in the memo noted above shall be 7 years after the Certificate of Occupancy is issued for the convenience store/cashiers area; and

10. The Developer and/or operator shall submit the plans for the trash enclosures for City staff review and approval after access to the enclosures have been approved by Gilton Solid Waste Management; and

11. The Developer and/or operator shall keep the site free from trash and debris and shall maintain the premises in a clean and orderly manner; and

12. Before development of Phase 2 project components can be constructed, rezoning the property's PF zoning and general plan designations will need to be rezoned to C-3, Service Highway Commercial shall be completed; and

13. Design and development of new storm water basin shall be as approved by the City Engineer. A new easement for the new storm water basin must be accepted by the City before the existing utility easement for the existing storm water basin can be abandoned.

14. The Developer and/or operator shall complete and record approved Lot Line Adjustment Application No. LLA 2020-02 before a building permit can be issued for development of the site.

15. The Developer shall include fire sprinklers in the development consistent with the requirements of the Merced County Fire Department and shall comply with other Fire Department requirements and standards including paying for, on a proportionate fair share basis, the cost for installing an OptiCom System at the Hammatt Avenue and Campbell Boulevard intersection.

16. Truck parking on Campbell Boulevard adjacent to the property shall be prohibited.

17. The Developer shall annex this Project site into the Community Facilities District (CFD) No. 2017-1 prior to the issuance of the Certificate of Occupancy, including payment of administrative costs associated with the annexation process.

18. Building permits are required and the project must conform to the California Code of Regulations, Title 24

The following Mitigation Measures were identified in the project's initial study/Mitigated Negative Declaration and are hereby included as Conditions of Approval. Any proposed amendments to the following conditions will require amendment, review and approval of a new environmental assessment in compliance with the California Environmental Quality Act.

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County Coroner. If the human remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission, which will notify and appoint a Most Likely Descendant. The Most Likely Descendant shall work with the City and a qualified archaeologist to decide the proper treatment of the human remains and any associated funerary objects in accordance with California Public Resources Code Sections 5097.98 and 5097.991. Avoidance is the preferred means of disposition of the burial resources.

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signal at the SR 99 ramps intersections.

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Exhibit B

GOUVEIA ENGINEERING

MEMORANDUM

TO: Miguel Galvez, Contract City Planner

FROM: Mario B. Gouveia, City Engineer Noé Martinez, P.E., for

SUBJECT: Engineering Review Comments for the SGM Moonglo, Inc. Truck Stop Complex (Phase 1) SPDR 2020-02 Application - **REVISED**

DATE: August 2, 2022

CC: Vanessa Portillo, City Manager

These are the Engineering review comments for the SGM Moonglo, Inc. Truck Stop Complex (Phase 1) in Livingston CA. The review comments are based on the revised site plan and accompanying drawings provided by the Applicant on July 26, 2022.

1. Provide improvement plans (separate from the building plans) for topography and demolition, street frontage improvements, site development, utilities, grading and drainage, landscaping, site lighting, erosion control, survey monuments and etc.
2. Public improvements shall conform to the latest edition of the City of Livingston Improvement Standards and all applicable State, Federal, and local laws and regulations.
3. Provide a soils report for project site prepared by a California registered geotechnical engineer.
4. Prepare a Storm Water Pollution Prevention Plan (SWPPP) pursuant to the California Water Resources Control Board Order No. 2009-0009-DWQ, NPDES No. CA000002 and the City of Livingston's MS4 Phase II Permit for construction activities. Prepare an Erosion Control Plan for storm water and construction BMPs. Applicant shall provide a WDID number prior to approval of the improvement plans.
5. Prepare volumetric sizing calculations, low development impact (LID) measures, operation and maintenance plan (O&M), and statement of responsibility agreement for storm water management pursuant to the City of Livingston's Post-Construction Standards Plan and pursuant to the City's Phase II MS4 Permit requirements.
6. Prepare a Dust Control Plan (DCP) and file the Plan with the San Joaquin Valley Air Pollution Control District for construction activities pursuant to Regulation VIII (Rules 8011-8081).
7. Prepare grading and encroachment permits for the project. Applicant shall pay the permit fee, plan check and inspection fees, and furnish improvement securities pursuant to the City's improvement standards, municipal code, and ordinances. The payment of permit fees shall be made as follows:
    a. Deposit for review of improvement plans due at submittal of plans
    b. Deposit for project inspections due at issuance of grading and/or encroachment permits
8. Applicant shall pay all applicable development impact fees for Municipal Facilities, Police, Fire Protection, Streets and Bridges, Water, Domestic Wastewater, Storm Drainage, and Parks.

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9. Construct all connections for dry utilities underground and within the street right of way or other acceptable easements as approved by the respective utility companies.

10. Install a minimum new 10-inch water main on Campbell Boulevard for all proposed domestic, irrigation, and fire service connections. The new water line shall be connected to the existing 12-inch main on Hammatt Avenue and extended along Campbell Boulevard as required to make the project connections. Connections shall include water meters, backflow preventers, post indicator valves, and fire department connections as applicable, pursuant to City standards and as approved by the City Engineer.

11. Construct a minimum 10-inch water main to create a loop between Campbell Boulevard and Dwight Way as shown on the project site plan. Water lines constructed outside of the public rights of way shall be located within an easement acceptable to the City Engineer. Applicant shall cause the dedication of said easement to the City of Livingston.

12. Install a 12-inch sewer main on Campbell Boulevard for all proposed connections for sanitary service and other allowable waste discharges or construct improvements as shown on the project site plan and accompanying drawings pursuant to City standards and as approved by the City Engineer. The new sewer line shall be extended along Campbell Boulevard as required to make the project connections and extended to the nearest property line for all other parcels with street frontage limited to Campbell Boulevard and within the limits of the project. Provide a grease interceptor at all onsite kitchen connections.

13. Connect the sewer main on Campbell Boulevard to the existing gravity sewer main on Dwight Way with a 12-inch sewer main as shown on the project site plan. Developer to submit hydraulic calculations to verify there is adequate capacity on the existing line to handle the additional project wastewater flows. Sewer lines constructed outside of the public rights of way shall be located within an easement acceptable to the City Engineer. Applicant shall cause the dedication of said easement to the City of Livingston.

14. Construct septage receiving station pursuant to City standards and as approved by the City Engineer. Applicant shall apply for a City Industrial Wastewater Permit for septage discharges to the sanitary sewer system. All discharges from the septage receiving station shall be metered.

15. Design and construct the proposed storm basin per the City standards, soils investigation report, and as approved by the City Engineer and Merced Irrigation District. The basin shall collect storm runoff from street frontage improvements and on-site areas and sized to handle storm runoff from the project site, tributary area(s) for existing basin, and any planned future development. Applicant shall grant and cause the dedication of an easement to the City of Livingston for disposal of street runoff unto the private storm basin.

16. Backfill existing basin, disconnect and extend existing storm pipes along Campbell Boulevard to the new basin on the southeast corner of the project site. The new storm drain line shall be sized to handle storm runoff from street frontage, on-site areas, and existing basin tributary area based on hydraulic calculations, pursuant to City standards and as approved by the City Engineer. Provide sand oil separator for all surface runoff from parking lots, fueling areas, and drive isles.

17. Dedicate street right of way and 10-ft public utility easement for the south half of Campbell Boulevard and construct street improvements pursuant to Arterial Standards (110-ft divided 4-Lane) or as approved by the City Engineer. Applicant shall dedicate the right of way using a street alignment for Campbell Boulevard that does not affect existing developed parcels within the impacted roadway segment. Roadway pavement shall be widen to ultimate street width within the project

frontage and transitioned to existing pavement as required. Curb, gutter, sidewalk, street lighting, street landscaping, and other required street frontage improvements shall extend the length of the property line. Construct all required frontage improvements per City standards or as approved by the City Engineer.

18. Dedicate street right of way for the north half of Campbell Boulevard pursuant to Arterial Standards (110-ft divided 4-Lane) as proposed by the Applicant on the project site plan and accompanying drawings. Applicant shall dedicate the right of way using a street alignment for Campbell Boulevard that does not affect existing developed parcels within the impacted roadway segment.

19. Construct street frontage improvements on Campbell Boulevard to match the intersection improvements for Campbell Boulevard and Hammatt Avenue being designed and constructed by others. Applicant shall cause the dedication of street right of way for Campbell Boulevard and Hammatt Avenue as necessary for said intersection improvements.

20. The Applicant would be responsible for constructing the street widening improvements on the west half of Hammatt Avenue between the State Route 99 northbound on-ramp and the intersection of Hammatt Avenue and Campbell Boulevard. These widening improvements are being triggered by the project's traffic impacts but they're already scheduled for construction by the City of Livingston using separate funding. Therefore, the Hammatt Avenue widening improvements are not required to be completed by the Developer.

21. The Applicant is responsible for constructing any street widening improvements on the north half of Campbell Boulevard that are triggered by the project's traffic impacts for turning movements at the intersections of Hammatt Avenue and Industrial Drive.

22. The proposed most western driveway on Campbell Boulevard shall be restricted to right-in and right-out vehicle movements. Applicant shall construct a raised center median on Campbell Boulevard to prevent left turn movements from said driveway.

23. Construct the proposed second driveway from the west to align with the intersection of Industrial Drive as shown on the project site plan and as approved by the City Engineer.

24. Construct all other street improvements and provide site ingress/egress as recommended by the project's Transportation Impact Analysis prepared by KDA & Associates dated July 24, 2020 and all other amendments thereto.

25. Applicant shall prepare and submit to Caltrans an STAA Route Designation Application for Hammatt and Campbell Boulevard on behalf of the City of Livingston and at the sole cost of the Applicant. Both streets shall be designated STAA routes prior to the issuance of a certificate of occupancy by the City of Livingston.

26. Applicant shall address any other requirements for street improvements and site access provided by Caltrans as part of their review and approval for this project, except for the requirements for the street widening improvements for the west half of Hammatt Avenue being completed by the City of Livingston.

27. Pay maximum fair share of 31% or minimum 14% at the City's discretion for intersection improvements at Hammatt Avenue and Campbell Boulevard to mitigate the traffic impacts per the project's Transportation Impact Analysis. The intersection improvements to include the required roadway configuration/traffic signal layout as approved by the City Engineer and pursuant to City standards.

28. Pay maximum fair share of 27% or minimum 10% at the City's discretion for intersection improvements at Hammatt Avenue and SR 99 Northbound Ramps to mitigate the traffic impacts per the project's Transportation Impact Analysis. The intersection improvements to include the required roadway configuration/traffic signal layout as approved by Caltrans and the City Engineer and pursuant to Caltrans/City standards.

29. Pay maximum fair share of 21% or minimum 7% at the City's discretion for intersection improvements at Hammatt Avenue and SR 99 Southbound Ramps to mitigate the traffic impacts per the project's Transportation Impact Analysis. The intersection improvements to include the required roadway configuration/traffic signal layout as approved by Caltrans and the City Engineer and pursuant to Caltrans/City standards.

30. Pay maximum fair share of 11% or minimum 3% at the City's discretion for intersection improvements at Hammatt Avenue and F Street to mitigate the traffic impacts per the project's Transportation Impact Analysis. The intersection improvements to include the required roadway configuration/traffic signal layout as approved by the City Engineer and pursuant to City standards.

31. Provide on-site and off-site ADA accessible path for pedestrians and bicyclists.

32. Provide access to the trash enclosure as approved by the City Planner and the City's Refuse Contractor.

33. Protect from damage all existing street improvements designated to remain in place.

Agenda Item #: 7. C.

Meeting Date: **August 9, 2022**
Report Date: August 5, 2022

CITY OF LIVINGSTON PLANNING COMMISSION
STAFF REPORT

PROPOSED ACTION: Public Hearing – Consideration of Proposed Amendments to the City of Livingston Planning Commission Policies and Procedures Rules

PREPARED BY: Miguel Galvez, Contract City Planner

DISCUSSION:

The Planning Commission policies were established in 1984 and have been amended from time-to-time, with the most recent Amendment in June 2001.

Staff last reviewed the City of Livingston Planning Commission Adopted Policies with Proposed Amendments and the draft Planning Commission Procedural Rules at the Commission's Meetings of January 11 and July 12, 2022. The Commission provided comments and asked for clarification on certain items.

Staff has since responded to comments and questions raised by Commissioners and incorporated suggested text amendments. The draft documents with the proposed changes are attached and drafted in "track changes" with strike-out text for deleted text and underline text for new text.

The Planning Commission will be asked to consider approving the proposed amendments, making any additional refinements under a Public Hearing setting.

RECOMMENDATION:

Open a Public Hearing to consider approving the proposed amendments to the City of Livingston Planning Commission Policies and Procedure Rules, incorporating any additional edits as deemed appropriate by the Commission.

ATTACHMENTS:

1. Draft Planning Commission Adopted Policies
2. Draft Planning Commission Procedural Rules City of Livingston
3. Livingston Municipal Code Section 2-2-3: Removal of Members and Vacancies
4. Planning Commission Resolution 2022-09, Adopting amendments to the Planning Commission Adopted Policies and Procedural Rules.

CITY OF LIVINGSTON

PLANNING COMMISSION

ADOPTED POLICIES

AS AMENDED

~~January~~ August 2022

Approved by Minute Order: PC Mtg.

TABLE OF CONTENTS

ADMINISTRATIVE POLICIES

Planning Commission Policy
A-1: Chairmanship Rotation

1. Chairmanship shall be determined by several factors: 1) Interest and availability to serve; 2) Length of service on the Planning Commission; 3) Special relevant experience.

2. Determine of whether those with availability, seniority or length of service, or special relevant experience have actually served as Chair and how recently if they have served.

3. Each year the rotation will be based on the length of service for the above factors.

Planning Commission Policy
A-2: Applications to be Presented to Planning Commission

1. All materials intended for a Planning Commission agenda shall be submitted to the City Planner in sufficient time for the City Planner to follow all protocol for scheduling the matter for hearing and the applicant must pay ~~shall cause~~ all fee balances due ~~s to be paid no later than ten (10) days~~ prior to the actual Planning Commission meeting.

2. When an application is submitted for consideration by the Planning Commission and the materials submitted is insufficient, the application may be denied by the Planning Commission on the incompleteness of the submittal.

3. All agenda material should be to the Planning Commission on the Friday before the Planning Commission meeting or five (5) days in advance of the meeting in the case of a special meeting.

4. Planning Commission strongly recommends that an applicant or an applicant's representative participate in the ~~attend the~~ Planning Commission meeting to answer questions.

5. Members of the Planning Commission with questions or concerns about a scheduled Planning Commission agenda item, ~~they~~ should make every attempt to discuss the matter with the City Planner prior to the Planning Commission meeting.

Planning Commission Policy
A-3: Home Occupation Permits

1. Home Occupation Permits shall be revoked when conditions of the permit are violated. When an applicant discontinues, they need to contact the Secretary of the Planning Commission, then the Home Occupation Permit is automatically expired.

2. Vehicles used in connection with a Home Occupation Permit shall be licensed and of no more than one (1) ton load capacity.

3. A Home Occupation Permit shall not be required for an office, if the resident has the primary business location in appropriate district, and the home office use otherwise complies with all of the Code requirements.

4. It is the intent of the Planning Commission that the Home Occupation Permit shall not generate customer/client contact on the premises, such that parking, traffic, noise, etc. will become detrimental to normal residential environment.

Planning Commission Policy
A-4: Annual Review of Policies

1. The Planning Commission shall review Planning Commission Policies annually at the Planning Commission's discretion.

2. Planning Commissioners shall review all Planning Commission Policies upon their appointment to the Planning Commission.

3. ~~The~~Each member of Planning Commission shall review the Planning Commission Procedural Rules within one month of being appointed to the Commission.

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Planning Commission Policy
A-5: Environmental Mitigation Monitoring Program

1. The Environmental Mitigation Monitoring Program is established to ensure that the project mitigation measures identified in environmental review are implemented and that the program complies with AB3180 (Public Resources Code 21081.6).

2. The City Planner shall be responsible for all program administration and mitigation monitoring.

3. The program shall report on project compliance with mitigation measures identified in a Negative Declaration or Environmental Impact Report (EIR).

4. Specialized personnel, departments, and agencies may be delegated monitoring responsibilities.

5. Project proponents/developers shall bear all reasonable costs associated with a monitoring program, including specialized City consulting and testing and other agencies' fees. Project proponents may also be required to submit monitoring reports to the City.

6. The City Planner shall design an Environmental Mitigation Monitoring Program Checklist which will be the primary monitoring report, but may be supplemented with additional reports and information.

7. The Environmental Mitigation Monitoring Program Checklist shall be maintained in the Project File.

8. All Mitigation Monitoring Programs shall be reviewed~~approved~~ by the Planning Commission and recommended for approval to the City Council.~~.~~

Planning Commission Policy
A-6: Presence of Additional City Staff at Planning Commission Meetings

1. Staff (City Manager, City Attorney, City Engineer, Public Works Director, Building Official, Chief of Police, Finance Director) shall attend meetings of the Planning Commission at the request of the City Planner or the Chairperson of the Planning Commission and shall offer such counsel as may be appropriate.

Planning Commission Policy
A-7: Planning Commission Training

1. The Planning Commission shall seek out opportunities for training and continuing education on the General Plan, Zoning and Subdivision code, and possibly the California Environmental Quality Act (CEQA). This training and continuing education may be provided by:

    - Attending classes and conference sessions provided by the League of California Cities, State of California, County of Merced, California Chapter of the American Planning Association, or other provider of training and education for California jurisdictions;

    - By Commissioners themselves sharing information obtained at formal or informal trainings with the full Commission; and

    - By City staff.

Planning Commission Policy
A-8: Meeting Types

1. ***Meetings***

   a. Regular Meetings – All regular meetings will be held by the Planning Commission at time and place designated by ordinance. The meetings are held the second Tuesday of each month at the hour of 7:00 p.m. in the City Council Chambers or other City location (i.e. City Hall Conference Room).

   b. Adjourned Meetings – The Planning Commission may adjourn any meeting to a time and place specified in the "order of adjournment." If for any reason a quorum of the Planning Commission is absent from any regular or adjourned regular meeting, the Secretary of the Planning Commission may declare the meeting adjourned until the next regularly scheduled Commission meeting. The Secretary of the Planning Commission shall post a notice of adjournment immediately after acting to adjourn the meeting.

   c. Special Meetings – A special meeting may be called at any time by the Chair of the Planning Commission by a majority of the members of the Planning Commission. A written notice shall be delivered to the residence to each Planning Commissioner with a copy being sent to each local newspaper of general circulation a minimum of 24 hours prior to the special meeting being held. The notice will contain the nature of the business to be conducted, no other business shall be considered.

   d. Emergency Meetings – The government code identifies special circumstance that would prompt the need for an emergency meeting. All notification as stated in number "c" above must be made one hour prior to the emergency meeting. The only differential in the notification requirement is the notice can be made orally, and no closed session can be held. The minutes of an emergency meeting shall be posted for a minimum of 10 days at City Hall as soon after the meeting as possible.

   e. Workshops – The City Planner and/or City Manager may from time to time request that a matter be shared with the Planning Commission in a Workshop setting. The Workshop material will be shared with the Planning Commission and the Commission is eligible to ask questions of staff on the matter to be discussed. The

workshop will be considered a working discussion on a matter between and City Staff and the Commission. No action will be taken by the Commission as a result of the workshop. The Commission is free to state their opinions with Staff, but a workshop is not a Public Hearing. ~~Meaning t~~The public will ~~not~~ be allowed to ask questions~~, but will be allowed to attend~~ and observe the discussion.

SITE PLAN DESIGN POLICIES

Planning Commission Policy
SP-1: Apartment Live-In Manager

1. 1. The Property Owner shall to utilize a live-in manager for multiple family complexes of five (516) units or more as required by State Law (California Code of Regulations, Title 25, Section 42). ~~The Planning Commission shall require the property owner to use of a live-in manager for multiple family complexes of five (5) units or more~~.

2. Failure to comply with a live-in manager requirement can be treated as grounds for disapproval of a site plan by the Planning Commission or reported to the State of California Department of Housing and Community Development for enforcement action. ~~revocation of a Conditional Use Permit~~.

Planning Commission Policy
SP-2: Passable Surfaces

1. All parking spaces and access driveways must be surfaced in accordance with City Standards.

2. All driveway access lanes shall be at least 12 feet wide.

3. Concrete or asphalting shall be acceptable for parking and driveway construction. Residential Driveways must be concreted for R-1 and R-2 developments.

4. Alleys may be used for access to parking if the Planning Commission determines that such use will enhance the project's circulation and amenities, without a negative impact to surrounding properties and streets. Use of alleys may require the applicant's paving and maintaining to City Standards of that portion providing access.

5. ~~*All driveway access lanes shall be a minimum of 20 feet long*~~.

Planning Commission Policy
SP-3: Guidelines for Building Construction

1. Building must be compatible with the distinguishing architectural characteristics of surrounding area.

2. New construction should respect mature trees, and other features in the landscape that are important to the character of the site and environment.

3. Provide plantings and other elements to create visual interest and variety.

4. Locate site functions (e.g. parking areas) to achieve maximum efficiency and to screen undesirable visual elements.

5. Use landscape features such as walls, paving, fences, screens, outdoor lighting and planters as integral elements of the building design.

6. Employ variety in building forms and ensure compatibility with surrounding buildings.

7. Use shapes, colors, materials, and other architectural treatments to define, differentiate, soften and enliven the form.

8. Employ decorative wall cladding materials and surfaces that harmonize with one another. Choose colors, patterns, textures and finishes that enhance overall design effect.

9. Screen all unsightly or visually cluttered roof top equipment from view, using details and devices that fit the building design.

10. Choose and locate windows and doors to enhance architectural effects, provide continuity forms and create patterns of relief in facades.

11. Treat utility doors, access panels, fire doors, loading docks and other openings as part of architectural composition.

12. Treat signs, sign structures and exterior graphics as integral elements of the design and insist on harmony and subdued appearance.

13. Conceal outdoor utility connections and equipment with designed architectural screens and enclosures.

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City of
Livingston
California

DRAFT
PLANNING COMMISSION
PROCEDURAL RULES
CITY OF LIVINGSTON

~~JANUARY 2022~~Redlined as a result of ~~discussions of~~ August 9, 2022

Planning Commission Approved by Resolution No. _____

PREFACE

The following is a single source reference document of the Livingston Planning Commission Procedural Rules. The procedural rules included in this reference document have been formally adopted by the Planning Commission, pursuant to Livingston Municipal Code Chapter 2-2-6: Adoption of Rules

This document will be reviewed periodically and modified, as the Planning Commission deems appropriate.

Table of Contents

CITY OF LIVINGSTON
PLANNING COMMISSION
PROCEDURAL RULES

I. PLANNING COMMISSION MEETINGS

1. **Regular Meetings** - Regular meetings of the Planning Commission shall be held the second Tuesday of each month commencing at 7:00 p.m. in the City Council Chambers, Livingston City Hall, 663 Main Street.

   a. **Other Locations** - The Planning Commission may, from time to time, elect to meet at other locations within the City and upon such election shall give public notice of the change of location.

   b. **Location During Local Emergency** - If, by reason of fire, flood, or other emergency, it shall be unsafe to meet in the City Hall, the meetings may be held for the duration of the emergency at such other place as may be designated by the Chair, or if the Chair does not so designate, by the Vice Chair or City Manager.

   c. **Holidays** - When the day for any regular meeting falls on a legal holiday, the regularly scheduled meeting for that day shall automatically be held on the following day at the regular time and place unless cancelled by the Planning Commission.

2. **Special Meetings & Emergency Meetings** - Special meetings of the Planning Commission may be called and held from time to time consistent with and pursuant to the procedures set forth in the Government Code.

3. **Adjourned Meetings** - The Planning Commission may adjourn any regular, adjourned regular, special or adjourned special meeting to a time and place specified in the order of adjournment.

4. **Closed Session** - The Planning Commission may hold closed sessions in accordance with state law, during any regular or special meeting, or any time otherwise authorized by law, to consider or hear any matter which is authorized by State law to be heard in closed session.

5. **Cancellation of Regular Meetings** - Any meeting of the Planning Commission may be cancelled in advance by a majority of the Planning Commission.

6. **Quorum – Three (3)** members of the Planning Commission shall constitute a quorum, but a lesser number may adjourn from time to time.

7. **Chairman (Chair)** - The Chairman shall preside over all Planning Commission meetings. The Chairman shall have authority to preserve order at all Planning

Commission meetings, to call for the removal of any person(s) from any meeting of the Planning Commission for disorderly conduct, to see that all actions of the Commission are properly taken, to sign documents of the Commission, to interpret and enforce the procedural rules of the Planning Commission and to determine the order of business under the rules of the Planning Commission.

a. **Absence of Chairman** - The Vice Chairman shall act as Chairman in the absence or disability of the Chairman.

b. **Chairman & Vice Chairman Absence** - When the Chairman and Vice Chairman are absent from any meeting of the Planning Commission, the members present may choose another member to act as Chairman pro tem, and that person shall, during that meeting, have the duties of the Chairman.

8. **Attendance by the Public** - Except as specifically provided by law for closed sessions, all meetings of the Planning Commission shall be open to the public in accordance with the terms, provisions and exceptions of State law.

9. **Action Minutes** - The Secretary or his/her designee will maintain a written record and attest to the proceedings of the Planning Commission in the form of expanded action minutes. Expanded action minutes will include final motions with votes of the Planning Commission, reflect the names of public speakers and paraphrase Planning Commissioners, staff discussion, and public comments.

10. **Recordings of Meetings** – Audio recordings of proceedings shall be made and shall be maintained by the Secretary of the Planning Commission for a period of no less than one year. Audio recordings of proceedings shall be made and shall be maintained by the Secretary for a period of no less than three years.

II. ORDER OF BUSINESS

1. **General Order** - The business of the Planning Commission at its meetings will generally be conducted in accordance with the following order of business unless otherwise specified. A closed session may be held at any time during a meeting consistent with applicable law.

CALL TO ORDER

ROLL CALL

PLEDGE OF ALLEGIANCE

DECLARATION OF CONFLICTS OF INTEREST

PUBLIC COMMENT (NON-AGENDA ITEMS)

AGENDA MODIFICATIONS

APPROVAL OF MINUTES

PUBLIC HEARINGS

SCHEDULED ITEMS

STAFF COMMENTS

PLANNING COMMISSION COMMENTS

CLOSED SESSION
The City Planning Commission may, by law, meet in executive (closed) session to discuss certain items of public business, most typically including pending or threatened litigation.

RECONVENE TO OPEN SESSION
The City Planning Commission will reconvene to open session and then make any announcements relating to matters acted upon in closed session when such announcements are required by the Ralph M. Brown Act.

ADJOURNMENT

2. **Action on Agenda Items** - In accordance with the Ralph M. Brown Act, the Planning Commission may not take action on any item that did not appear on the posted Planning Commission agenda 72 hours prior to the Planning Commission meeting unless an exception is made as permitted by the Government Code.

3. **Staff Comments** - These sections of the agenda provide the opportunity for brief comments on City business, operations, projects, and other items of general interest.

4. **Items Placed on Written Agenda** - Items of business shall be placed upon the written agenda prior to the deadline announced or observed for the preparation thereof, at the request of the Planning Commission or of any individual Planning Commissioner, Community Development Director, City Manager, or City Attorney.

III. RULES OF CONDUCT

1. **General Procedure** - It is the policy of the Planning Commission not to become involved in the protracted discussion over "parliamentary procedure." Consistent with any City ordinance, statute or other legal requirement, any issue of procedure relating to the conduct of a meeting or hearing not otherwise provided for herein may be determined by the Chair, subject to appeal to the full Planning Commission.

2-2-3: REMOVAL OF MEMBERS AND VACANCIES:

(A) Removal Of Members: Any member of the commission may be removed from the commission prior to the expiration of term by majority vote of the City Council. Vacancies on the Planning Commission from whatever cause shall be filled by the City Council for the unexpired term.

(B) Resignation Of Members: A member of the commission may resign from the commission by filing a written statement with the City Clerk stating he or she resigns from the commission. Upon filing the written statement with the City Clerk, the resignation shall become effective at the time of the filing and said member shall cease to be a member of said commission and a vacancy shall then exist. (Ord. 562, 11-20-2007)

(C) Absence With/Without Cause: Any Commissioner's seat shall automatically be deemed vacant for failing to attend any three (3) meetings in any twelve (12) month period, unless the absence is the result of illness or family emergency, or removal of the Commissioner from office would otherwise be prohibited by law. In the event that a Commissioner is unable to attend a meeting due to illness or family emergency, the Commissioner shall inform the City Manager or the Community Development Director at the earliest opportunity before the meeting in order for the absence to be excused. The commission shall immediately inform the City Council of such vacancy. Vacancies on the Planning Commission from whatever cause shall be filled by the City Council for the unexpired term. (Ord. 579, 2-17-2009)

RESOLUTION 2022-09

RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF LIVINGSTON ADOPTING AMENDMENTS TO THE PLANNING COMMISSION POLICIES AND PROCEDURAL RULES

WHEREAS, The City of Livingston Planning Commission Policies were established in 1984, and have been amended from time, with the most recent amendment adopted in June 2021; and

WHEREAS, the Planning Commission has discussed potential amendments to both the Planning Commission Administrative Policies and Planning Commission Procedural Rules at the Commission's Regular Meeting dates of January 11, 2022 and on July 12, 2022; and

WHEREAS, a Public Hearing for the Planning Commission to consider amendments to the Planning Commission's Administrative Policies, Planning Commission Site Plan Policies and amendments to the Planning Commission Procedural Rules has been properly noticed by posting, a newspaper ad; and

WHEREAS, the proposed action is not consider a Project in the California Environmental Quality Act ("CEQA") under Section 15378 (b)(5) Administrative activities that will not result in direct or indirect physical changes in the environment; and

WHEREAS, the Planning Commission conducted a Public Hearing to hear comments from the public about the proposed amendments, incorporating any comments acceptable to the Commission.

NOW, THEREFORE, BE IT RESOLVED that the Livingston Planning Commission hereby adopts Resolution 2022-09, adopting amendments to the Planning Commission's Administrative Policies, Planning Commission Site Plan Policies and amendments to the Planning Commission Procedural Rules.

BE IT FURTHER RESOLVED that the amendments to Planning Commission's Administrative Policies, Planning Commission Site Plan Policies and to the Planning Commission Procedural Rules are reflected and attached as Exhibit A and B to this Resolution.

The foregoing resolution was introduced and moved for adoption on August 9, 2022, by Commissioner _____, and being duly seconded by Commissioner _____, was passed by the following vote:

AYES:	Planning Commissioners:
NOES:	Planning Commissioners:
ABSENT:	Planning Commissioners:
ABSTAIN:	Planning Commissioners:

ATTEST:

Chair, ROBERT WALLIS

Secretary of the Planning Commission,
MIGUEL GALVEZ