CITY OF HEMET

INITIAL STUDY

Date: September 8, 2020

Case Number: CUP No. 19-004 & SDR No. 19-009

Project Title: S2A Modular Factory Project

Contact:
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Project Location: Northwest corner of North State Street and Crows Nest Place in the City of Hemet, California

Project Applicant Name and Address:
S2A Modular
1000 Elwell Court, Suite 115
Palo Alto, California 94303

General Plan Designation: Industrial (FAR 0.45) **Zoning:** (C-M) Commercial-Manufacturing

Project Abstract: The proposed Project includes the development of a new TESLA-powered modular "smart home" factory and showroom/model display buildings with a total of 231,669 square feet of building area on approximately 32.1 acres. The Project site is located on the west side of North State Street between West Esplanade Avenue and Menlo Avenue in the City of Hemet. The proposed Project consists of five buildings including manufacturing space, a model home display village, and offices. The model home display village will include five fully functioning model homes. This will be a "Net Zero" facility with all solar use, a battery storage system, and Tesla truck delivery system. The Project will also include onsite passenger vehicle parking, truck trailer parking, interior drives, and ornamental landscaping. This project will employ approximately 100 factory workers of various construction trades (skilled labor), and operated as a "Net Zero" facility, powered by electricity generated by the solar panels on site. Additionally, the completed modular homes will be delivered to the final destination with TESLA electric powered semi-trucks.

Surrounding Land Uses and Setting: The properties to the north of the site are designated Industrial (FAR 0.45) in the Hemet General Plan, zoned Commercial Manufacturing (C-M) and (L-M) Limited Manufacturing and include a cement plant and undeveloped land.

The properties to the east of the site are designated Industrial in the San Jacinto General Plan, zoned Industrial Light (IL) (San Jacinto) and include a self-storage use and undeveloped land.

The properties to the south of the site are designated Low-Medium Density Residential with a density of 5.1-8.0 dwelling units per acre (du/ac) in the Hemet General Plan, zoned Single-Family Residential (R-1-6, 6,000 square feet minimum lot size), and include a mobile home park, a self-storage use, and undeveloped land.

The properties to the west of the site are designated Rural Residential (0.0-2.0 du/ac) in the Hemet General Plan and zoned Rural Residential (R-R, 20,000 square-foot minimum lot size) – this area include single-family, ranch-style homes.

	General Plan	Zoning	Land Use
North	Industrial (FAR 0.45)	C-M - Commercial Manufacturing & M-1 - Limited Manufacturing	Cement Plant/ Vacant Land
East	Industrial (San Jacinto)	(IL) Industrial Light (San Jacinto)	Self-Storage/ Vacant Land
South	LMDR - Low-Medium Density Residential	R-1-6 - Single-Family Residential (min. lot 6,000 sq. ft.)	Self-Storage/ Mobile Homes/ Vacant Land
West	RR - Rural Residential	R-R - Rural Residential (min. lot 20,000 sq. ft.)	Single-Family Homes

Other Public Agencies and Utilities Whose Approval is Required (e.g., permits, financing approval, or participation agreement.)

Eastern Municipal Water District-water and sewer connections

Riverside County Flood Control and Water Conservation District-drainage channel improvements

Southern California Edison - electrical connections and relocation of power lines plus easements

Southern California Gas Company – natural gas connections

California Department of Transportation – improvements along State Street

Regional Water Quality Control Board - Statewide Construction General Permit

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 and is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Six (6) tribes have expressed interest in development projects in the City under AB 52. These tribes have been notified of the Project and sent copies of the cultural resources study. The Initial Study indicates cultural and tribal cultural impacts require mitigation which includes tribal monitoring and tribal consultation if resources are found during grading, including human remains. On August 14, 2020 staff received a letter on behalf of the Rincon Band of Luiseño Indians. The letter indicated that although the subject is located within the Territory of the Luiseño people, it was recommended that the City consult with the Soboba Band of Luiseño Indians who are closer to the property.

Sources to be Incorporated by Reference

a. 2030 General Plan (January 24, 2012)
b. 2030 General Plan Final Environmental Impact Report (FEIR) (January 12, 2012)

Technical Studies Referenced in this Initial Study:

a. MIG. *Air Quality, Greenhouse Gas, and Energy Analyses for S2A Modular Factory Project. June 19, 2020.* (Appendix A)
b. Hernandez Environmental Services (HES). General Biological Assessment and Western Riverside County MSHCP Consistency Analysis for APNs 43-9030-009 & 439-030-010. June

2019. (See Appendix B)

c. Hernandez Environmental Services (HES). Burrowing Owl Survey Report for Assessor Parcel Numbers 439-030-009 and 439-030-010 located in Riverside County, California. June 7, 2019. (See Appendix B)

d. MIG. *Phase I Cultural Resources Assessment S2A Modular Factory Project*. March 26, 2020. (Appendix C)

e. Fred Aflakian, PG, CEG, Consulting Engineering Geologist. *Fault Rupture Hazard Investigation Proposed S2A Showroom and Factory Compound.* September 26, 2019. (Appendix D)

f. Eilar Associates, Inc. (EAI). Noise Impact Analysis, S2A Modular Factory State Street & Crows Nest Place. June 18, 2020. (Appendix E)

g. Ganddini Group, Inc. *S2A Modular Manufacturing Traffic Impact Analysis, City of Hemet.* May 19, 2020. (Appendix F)

DESCRIPTION OF THE PROJECT

Location

The City of Hemet (City) is located in Western Riverside County 15 miles east of the I-215 Freeway at the foot of the Santa Rosa Mountains. The Project site occupies 32.1 acres and is located at 1321 and 1255 North State Street, between West Esplanade Avenue and Menlo Avenue, in the northeast portion of the City. The site encompasses three parcels (APN# 439-030-009, 439-030-010, & 439-040-023) and is within Section 3, Township 5 South, Range 1 West according to the San Bernardino Base and Meridian (SBBM). Exhibit 1 shows the location of the site.

Environmental Setting

The property is currently vacant and relatively flat except for the western portion of the site which is elevated approximately 20-30 feet above the eastern portion of the site. The site elevations range from 1,538 to 1,557 feet above mean sea level and an onsite drainage swale separates the western and eastern portions of the site. The swale generally bisects the site in a northwest-southeast direction. The drainage channel is partially buried and partially exposed across the site. The Project site naturally drains from southeast to northwest.

The drainage swale that crosses the site follows a splay associated with the San Jacinto Earthquake Fault through this area. Local power utility poles are located along the west bank of the swale across the site. The Project site is located within FEMA Flood Zone X which means “an area determined to be outside the 500-year flood and protected by levee from 100-year flood High Risk Areas” (FEMA FIRM Panel 06065C1488H dated April 19, 2017)(FEMA website https://www.fema.gov/flood-zones).

Crows Nest Place is a local unimproved road in the southeastern portion of the site that runs from State Street west to the drainage swale – it is a “paper street” that is not planned to be improved as a public street at this time. The Circulation Element of the Hemet General Plan indicates Crows Nest Place should have a curb-to-curb width of 44 feet within a total right-of-way of 110 feet. With Project development, Crows Nest Place will be improved and will provide direct access to the Project site.

The site is currently disturbed and supports mainly non-native weedy vegetation. The surrounding area is largely built out with industrial uses to the north, south and southeast, a mobile home park to the southwest, rural residences to the west, and vacant land to the east across State Street.

Proposed Project

The following information is based on the Project site plan dated April 29, 2020. The proposed Project is the development of a new TESLA-powered modular “smart home” factory with manufacturing buildings and showroom/model display buildings with a total of 231,669 square feet of building area on 32.1 acres

(16.6 percent lot coverage). The proposed Project consists of five (5) buildings (A-E) including manufacturing space, "front" retail stores for associated vendors, a model home display village, and office space as shown in Table 1, *Project Characteristics*. Exhibit 2 shows the proposed site plan while Exhibit 3 shows elevations of the buildings.

Table 1: Project Characteristics

Building	Use(s)	Area (square feet)
A	Offices/Showroom	4,959
B	Offices/Showroom	101,355
C	Offices	101,355
D	Siding Building	12,000
E	Roofing Building	12,000
Total		**231,669**

Source: Site Plan dated April 29, 2020

Building A is located in the northeast corner of the site adjacent to State Street and contains the model home display village which will include five (5) fully functioning model homes. Building B is just west of Building A and contains additional showrooms and offices, while Building C is south of Building A and contains mainly offices. Buildings A-C are between State Street and the onsite drainage swale and north of Crows Nest Place. The office portions of these buildings will have air conditioning. Each building has its own associated parking lot adjacent to the building. The portion of the site south of Crows Nest Place will be used for "pre-shipping" of products (i.e., temporary outdoor storage) and additional parking. The parking areas adjacent to Buildings B and C will have covered spaces with overhead photovoltaic solar panels to generate electricity for onsite uses and the surrounding power grid if excess power is available during the day.

Buildings D and E are located west of the onsite drainage swale, with Building D housing the siding manufacturing and Building E housing the roofing manufacturing. A paved internal road will connect the areas supporting Buildings A-C with Buildings D and E across the onsite drainage swale. Neither of these buildings will have air conditioning but will have large fan units for employee comfort.

Local utilities are provided by Southern California Edison (electricity), the Southern California Gas Company (natural gas), Eastern Municipal Water District (water and sewer), Frontier (telephone), and Spectrum (Cable TV).

The entire Project is a "Net Zero" facility with all solar use, a battery storage system, and Tesla truck delivery system. The Project will also include onsite passenger vehicle parking, truck trailer parking, interior drives, and ornamental landscaping.

The site plan indicates earthwork onsite will be balanced with no import or export of fill (i.e., grading will move soil around within the site boundaries to create building pads, etc.). When the Project is developed, approximately 21 acres of the site (65 percent) will be disturbed and 16.4 acres of the site (50 percent) will be covered by impervious surfaces.

A water quality basin with 9,187 square feet (0.2-acre) will be located in the north-central portion of the site to collect and treat runoff water before release into the local storm drain system. Three drain lines from the east, southeast, and west portions of the site drain into the basin.

The current site plan indicates the Project will provide a total of 438 regular parking spaces, distributed as necessary to the five buildings, with a total of 10 handicapped spaces and 10 electric vehicle (EV) charging stations. Two handicapped spaces are located close to the main entrance of each of the 5 buildings while the EV charging stations are located east of Building C and south of Building A.

The Project site will be landscaped in accordance with City requirements with emphasis on public views of the site from State Street (i.e., parkway along the eastern boundary of Project site).A Conditional Use Permit (CUP) has been submitted due to the proposed height of the buildings. The maximum height in the C-M zone is 35 feet and Buildings B and C propose a maximum height of 60 feet at their highest point of the roof. Pursuant to City Municipal Code Section 90-895 (d)(2), buildings that exceed that maximum height of the zone in which the use is proposed may be considered through the processing of a CUP.

Construction of the proposed Project will take place over an approximate duration of one year with development occurring in two distinct phases:

- **Phase 1 (6 months)**
    - Building A (4,959 square feet for offices / showroom)
    - Building B (101,355 square feet for residential plant)
    - Building E (12,000 square feet for hemp dry wall mud research and development)
    - Two (2) showroom example modular homes
- **Phase 2 (5 months)**
    - Building C (101,355 square feet for commercial plant)
    - Building D (12,000 square feet for hemp stucco/panels research and development)
    - Three (3) showroom example modular homes

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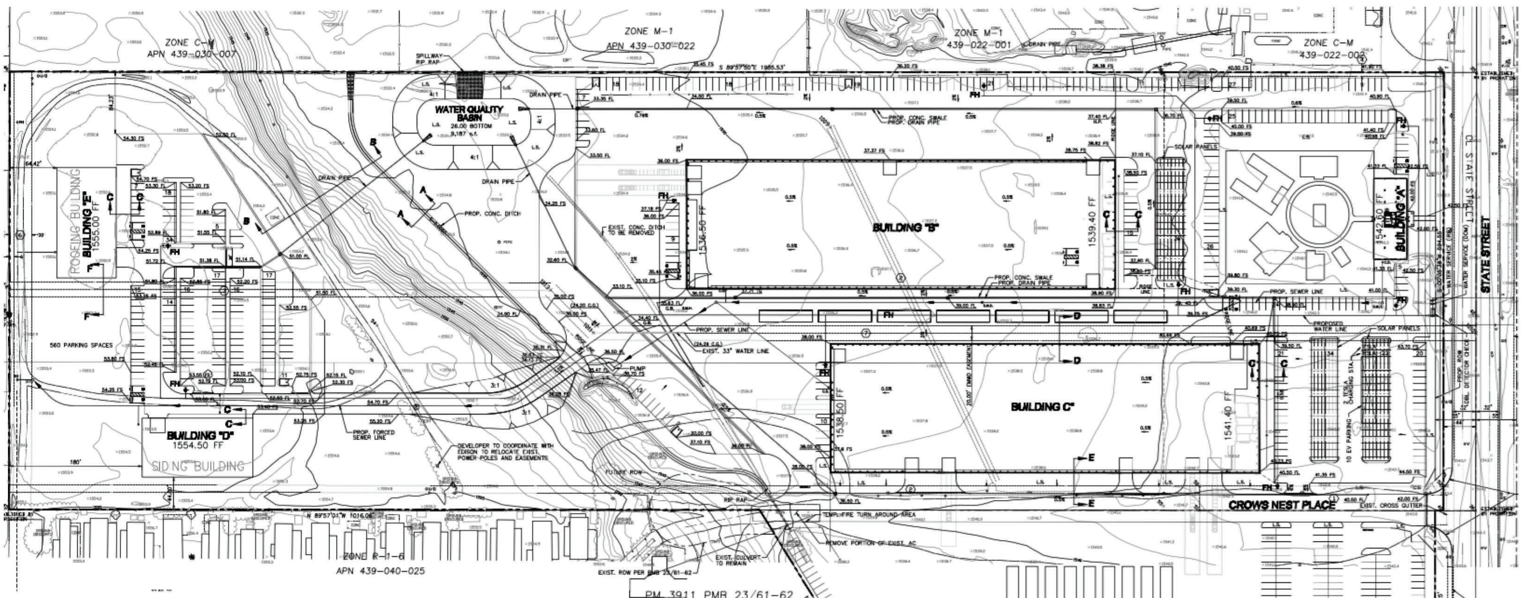
Exhibit 1 Project Location Map

S2A Modular Home Factory Project

Hemet, California



ZONING AND LAND USE:

EXIST. ZONING	COMMERCIAL–MANUFACTURING
PROP. ZONING	COMMERCIAL–MANUFACTURING
EXIST. LAND USE	VACANT
PROP. LAND USE	COMMERCIAL–MANUFACTURING

ASSESSORS PARCEL NO.:

439-030-009, 439-030-010, 439-040-023

TOTAL ACREAGE:

TOTAL ACREAGE (GROSS)	32.1 AC.
DISTRUBED AREA	21 AC.
IMPERVIOUS AREA	16.42 AC.
PERVIOUS AREA	15.68 AC.
TOTAL NO. OF PARKING	~~720~~

BUILDING SQUARE FOOTAGE

BUILDING "A"	4,959 S.F.
BUILDING "B"	101,355 S.F.
BUILDING "C"	101,355 S.F.
BUILDING "D"	12,000 S.F.
BUILDING "E"	12,000 S.F.
TOTAL SQUARE FOOTAGE	231,669 S.F.

BUILDING USE

BUILDING "A"	OFFICES/SHOWRROOM
BUILDING "B"	OFFICES/SHOWRROOM
BUILDING "C"	OFFICES
BUILDING "D"	HEMP R & D STUCCO/PANELS
BUILDING "E"	HEMP R & D DRY WALL MUD

EASEMENT NOTES:

1. DECLARATION OF DEDICATION PER INST. NO. 136701 REC. 12/06/1965 O.R.
2. CL OF 10' WIDE EASEMENT IN FAVOR OF SO. CAL EDISON CO. PER INST. NO. 106260 REC. 10/28/1966. O.R.
3. EASEMENT IN FAVOR OF SO. CAL. EDISON CO. PER INST. NO. 46421 REC. 05/29/1967. O.R.
4. 5' WIDE EASEMENT FOR WATER PIPE LINE AND UTILITIES
5. AN EASEMENT IN FAVOR OF CALIFORNIA WATER AND TELEPHONE CO. PER BK. 1604 PG 231 IS NOT, PLOTTABLE FROM THE RECORD.
6. EASEMENT IN FAVOR OF EASTERN MUNICIPAL WATER DISTRICT PER BK. 3726 PG.565–568. O.R.
7. EASEMENT IN FAVOR OF EASTERN MUNICIPAL WATER DISTRICT PER INST. 108484 REC. 06/11/1981.

Not to Scale

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Exhibit 2 Site Plan

S2A Modular Home Factory Project

Hemet, California

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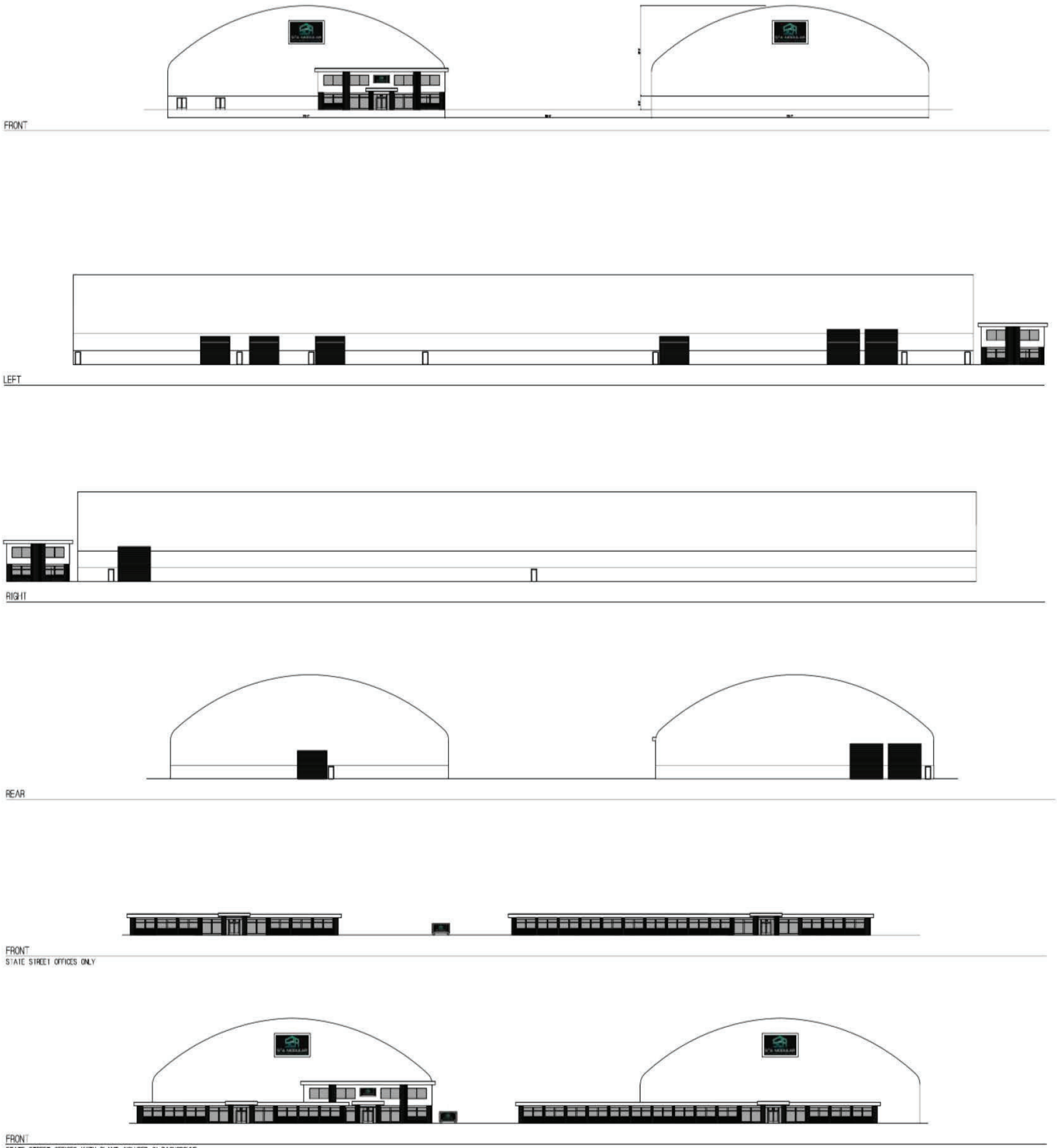

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Exhibit 3 Elevations/Renderings

S2A Modular Home Factory Project

Hemet, California

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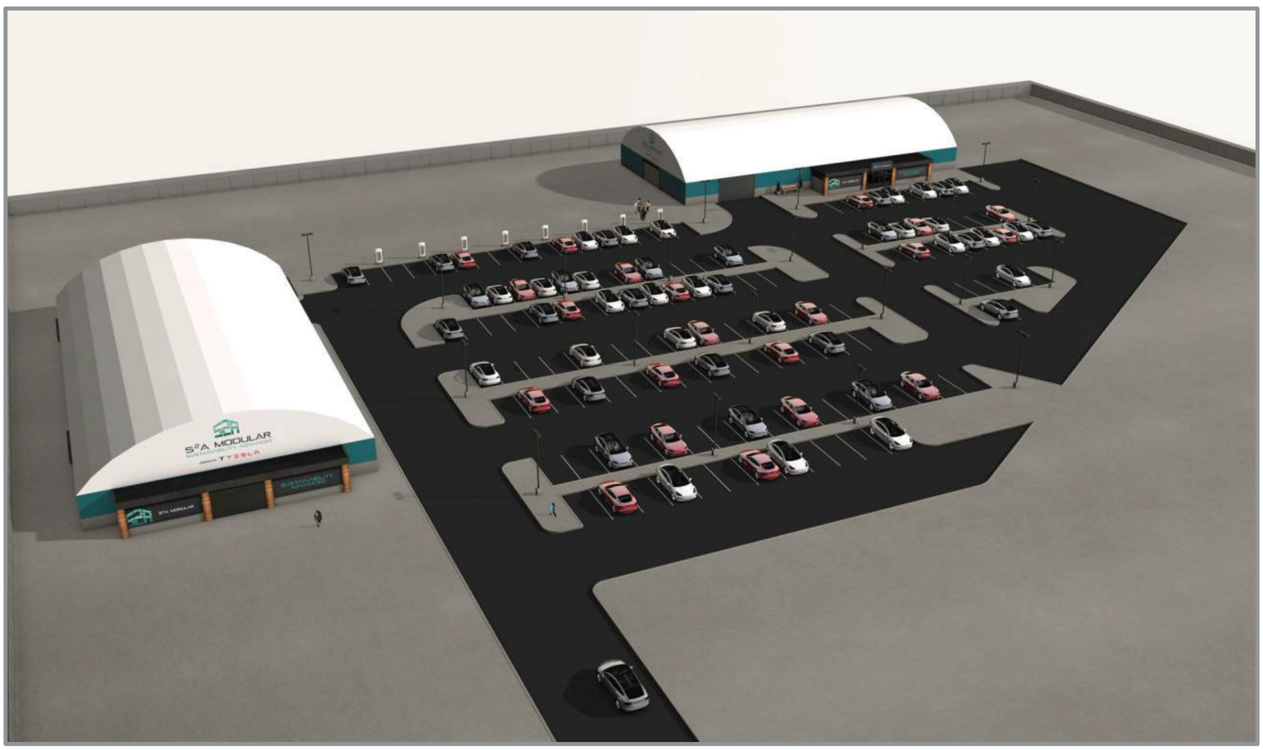
Plant Rendering

Office Rendering

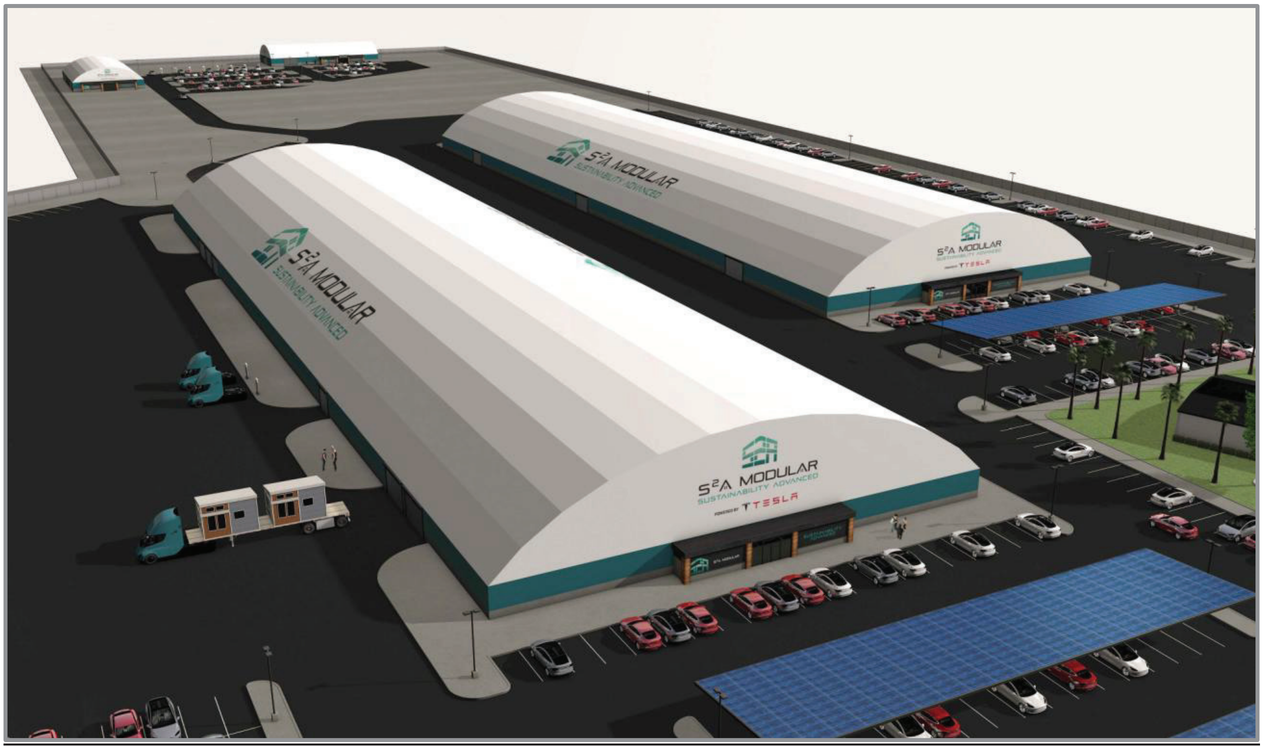
Factory Rendering

Factory Rendering

Factory Rendering



Factory Rendering



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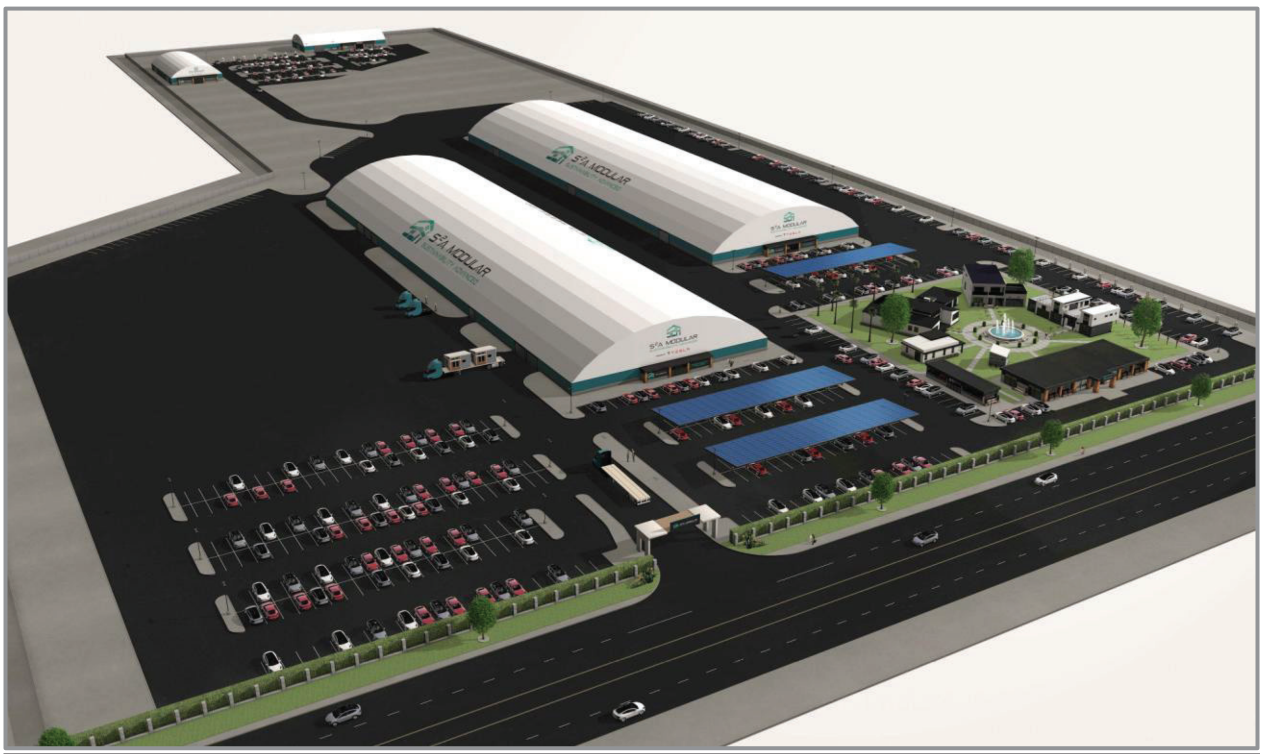


Factory Rendering

Factory Rendering

Factory Rendering

Exhibit 3 Elevations/Renderings Cont.

Corner of State Street and Crow's Nest Place Facing North

Corner of State Street and Crow's Nest Place Facing South

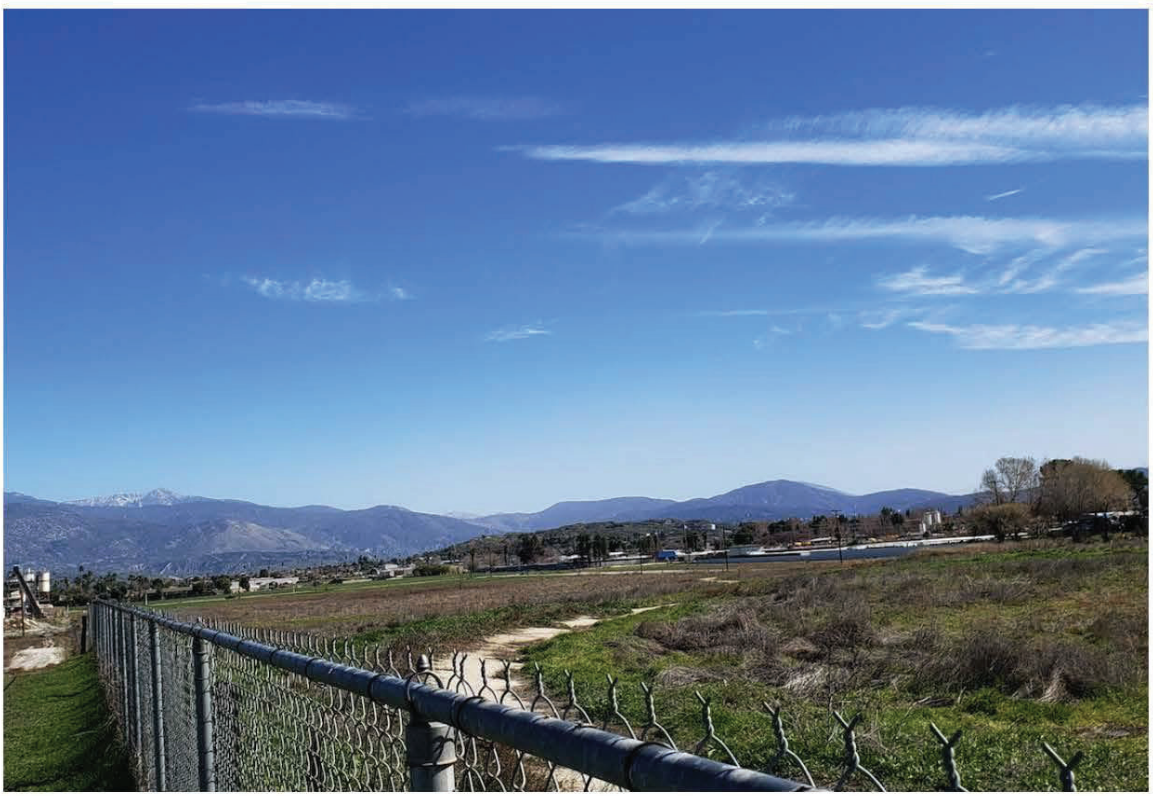
Corner of State Street and Crow's Nest Place Facing West

Southwest Corner of Project Site Facing Northwest

Southwest Corner of Project Site Facing North

Northwest Corner of Project Site Facing Southwest

Northwest Corner of Project Site Facing South



Northwest Corner of Project Site Facing Southeast

TABLE OF MITIGATION MEASURES

BIOLOGICAL RESOURCES

BIO-1 Pre-Construction Burrowing Owl Survey. A burrowing owl pre-construction survey shall be conducted on the Project site within fourteen (14) days prior to ground disturbance to avoid direct take of burrowing owls. The pre-construction survey will follow the guidance outlined in Burrowing Owl Survey Instructions for the Western Riverside MSHCP (2006).

BIO-2 Pre-Construction Nesting Bird Survey. If vegetation removal is scheduled during the nesting season (typically February 1 to September 1), then a focused survey for active nests shall be conducted by a qualified biologist (as determined by a combination of academic training and professional experience in biological sciences and related resource management activities) no more than five (5) days prior to the beginning of project-related activities (including but not limited to equipment mobilization and staging, clearing, grubbing, vegetation removal, and grading). Surveys shall be conducted in proposed work areas, staging and storage areas, and soil, equipment, and material stockpile areas. For passerines and small raptors, surveys shall be conducted within a 250-foot radius surrounding the work area (in areas where access is feasible). For larger raptors, the survey area shall encompass a 500-foot radius. Surveys shall be conducted during weather conditions suited to maximize the observation of possible nests and shall concentrate on areas of suitable habitat. If a lapse in project-related work of five (5) days or longer occurs, an additional nest survey shall be required before work can be reinitiated. If nests are encountered during any preconstruction survey, a qualified biologist shall determine if it may be feasible for construction to continue as planned without impacting the success of the nest, depending on conditions specific to each nest and the relative location and rate of construction activities. If the qualified biologist determines construction activities have potential to adversely affect a nest, the biologist shall immediately inform the construction manager to halt construction activities within minimum exclusion buffer of 50 feet for songbird nests, and 200 to 500 feet for raptor nests, depending on species and location. Active nest(s) within the Project site shall be monitored by a qualified biologist during construction if work is occurring directly adjacent to the established no-work buffer. Construction activities within the no-work buffer may proceed after a qualified biologist determines the nest is no longer active due to natural causes (e.g. young have fledged, predation, or other non-human causes of nest failure).

CULTURAL RESOURCES

CUL-1 Archaeological Monitoring. Prior to ground disturbing activity, the applicant shall retain a registered professional archaeologist (RPA), and the registered professional archaeologist shall conduct monitoring of all mass grading and trenching activities. The Project Archaeologist shall have the authority to temporarily redirect earthmoving activities in the event that suspected archaeological resources are unearthed during Project construction.

CUL-2 Cultural Resource Management Plan. A Cultural Resource Management Plan shall be developed by the Project Archaeologist, in consultation with the Soboba Band of Luiseno Indians, the contractor, and City, to address the documentation process for discovered resources, temporary storage of the items, limited non-destructive analysis, treatment and final disposition in accordance with CR-4. Details in the Plan shall include:

a. The protocols and stipulations to be followed in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.

b. Treatment of inadvertent discoveries limited to basic recordation and non-destructive analysis.

c. Pre-grading meeting with the City, the construction manager and any contractors, including but limited to a mandatory Workers Environmental Awareness Training (WEAP) to those in attendance. The Training will include a brief review of the cultural sensitivity of the Project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols.

CUL-3 Tribal Monitoring. Prior to the issuance of a grading permit, and prior to the commencement of ground disturbing activity, the applicant shall secure an agreement with the Soboba Band of Luiseno Indians for Tribal Monitoring and the Treatment and Disposition of all tribally associated artifacts discovered within the project boundaries. Native American Monitor(s) from the Soboba Band of Luiseno Indians shall conduct monitoring of all initial ground disturbing activities associated with the project. The Native American Monitor(s) shall have the authority to temporarily redirect earthmoving activities in the event that suspected archaeological resources are unearthed during project construction.

CUL-4 Inadvertent Discoveries. In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries:

a) One or more of the following treatments, in order of preference, shall be employed, and evidence of such shall be provided to the City:

i. Preservation-In-Place of the cultural resources, if feasible. Preservation in place is defined as avoiding the resources, leaving them in the place they were found with no development affecting the integrity of the resources.

ii. Onsite reburial of the discovered items. This shall include measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed. No recordation of sacred items is permitted without the written consent of the Soboba Band of Luiseno Indians. The location for the future reburial area shall be identified on a confidential exhibit on file with the City and concurred to by the Soboba Band of Luiseno Indians prior to certification of the environmental document.

CUL-5 Discovery of Human Remains. In accordance with Section 7050.5 of the California Health and Safety Code, if human remains (or remains that may be human) are discovered at the project site during grading or earthmoving, the construction contractors, project archaeologist, and/or designated Native American Monitor shall immediately stop all activities within 100 feet of the find. The project proponent shall then inform the Riverside County Coroner and the City of Hemet Planning Department immediately. The coroner shall be permitted to examine the remains as required by California Health and Safety Code Section 7050.5(b). Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If human remains are determined as those of Native American origin, the applicant shall comply with the state relating to the disposition of Native American burials that fall within the jurisdiction of the NAHC (PRC Section 5097). The coroner shall contact the NAHC to determine the most likely descendant(s). The MLD shall complete his or her inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The Disposition of the remains shall be overseen by the most likely descendant(s) to determine the most appropriate means of treating the human remains and any associated grave artifacts, in consultation with the property owner and the lead agency.

GEOLOGY AND SOILS

GEO-1 Seismic Building Code Compliance. Prior to the issuance of any grading or building permits, the applicant shall demonstrate, and the applicable building plans shall show, all planned improvements are consistent in terms of location and design with the seismic design criteria of the California Building Code (CBC) including structures constructed as part of the parking lot enhancements (i.e. fences, rolling gates, drainage outlets, etc.) to prevent collapse during an earthquake. The Project must also be consistent with the seismic limitations outlined in the Fault Rupture Hazard Report and any subsequent geotechnical or soils constraints reports prepared by the applicant and approved by the City. The Project shall also install shut-off valves for any wet utilities (e.g., sewer and water) that cross the designated fault setback zone. These valves shall be placed on either side of the fault zone. This measure shall be implemented to the satisfaction of the City Engineer in consultation with the County Geologist, if necessary, to ensure public and worker health and safety are adequately protected against loss of life or significant property damage during operation of the Project.

GEO-2 **Paleontological Training for Construction.** The applicant shall retain a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology and shall conduct a paleontological sensitivity training for construction personnel prior to commencement of excavation activities. The training will include a handout and will focus on how to identify paleontological resources that may be encountered during earthmoving activities and the procedures to be followed in such an event, the duties of paleontological monitors, notification and other procedures to follow upon discovery of resources, and the general steps a qualified professional paleontologist will follow in conducting a salvage investigation if one is necessary.

GEO-3 **Paleontological Monitoring.** The applicant shall retain a professional paleontologist who meets the qualifications set forth by the Society of Vertebrate Paleontology and shall conduct periodic Paleontological Spot Checks beginning at depths below six feet to determine if construction excavations have extended into older Quaternary deposits. After the initial paleontological spot check, further periodic checks will be conducted at the discretion of the qualified paleontologist. If the qualified paleontologist determines that construction excavations have extended into the older Quaternary deposits, construction monitoring for paleontological resources will be required. The applicant shall retain a qualified paleontological monitor, who will work under the guidance and direction of a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology. The paleontological monitor shall be present during all construction excavations (e.g., grading, trenching, or clearing/grubbing) into the older Pleistocene alluvial deposits. Multiple earth-moving construction activities may require multiple paleontological monitors. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known paleontological resources and/or unique geological features, the materials being excavated (native versus artificial fill soils), and the depth of excavation, and if found, the abundance and type of paleontological resources and/or unique geological features encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the qualified professional paleontologist.

GEO-4 **Paleontological Resource Treatment Plan**. If paleontological resources and or unique geological features are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 50 feet shall be established around the find where construction activities shall not be allowed to continue until an appropriate paleontological treatment plan has been approved by the applicant and the City. Work shall be allowed to continue outside of the buffer area. The applicant and City shall coordinate with a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology, to develop an appropriate treatment plan for the resources. Treatment may include implementation of paleontological salvage excavations to remove the resource along with subsequent laboratory processing and analysis or preservation in place. At the paleontologist's discretion and to reduce construction delay, the grading and excavation contractor shall assist in removing rock samples for initial processing.

GEO-5 **Paleo Completion Report**. Upon completion of the above activities, the professional paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted to the applicant, the City, the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures.

HYDROLOGY AND WATER QUALITY

HWQ-1 Hydrology Study. Prior to issuance of a grading permit, the applicant shall prepare a Project site Hydrology Study for review and approval by the City Engineer. The Study shall meet the City requirements and include calculations demonstrating the physical requirements for the onsite water quality basin in terms of storm water detention capacity for expected flood flows. The Study shall demonstrate that post-development offsite runoff will be equal or less than that under pre-development conditions. All submitted plans as appropriate shall be consistent with the Hydrology Study. This measure shall be implemented to the satisfaction of the City Engineer.

HWQ-2 SWPPP. Prior to issuance of a grading permit, the applicant shall prepare a Storm Water Pollution Prevention Plan (SWPPP) on the Project site for review and approval by the City Engineer. The SWPPP shall meet the City's requirements for such studies and include but not be limited to erosion and siltation reduction measure Best Management Practices (BMPs) to be implemented during construction. At the completion of construction, the Project will consist of impervious buildings surfaces, landscaped planters, and post-construction (operational) BMPs to be addressed in a Water Quality Management Plan (WQMP - see MM HWQ-3). All submitted plans as appropriate shall be consistent with the SWPPP. This measure shall be implemented to the satisfaction of the City Engineer.

HWQ-3 WQMP. Prior to issuance of a grading permit, the applicant shall prepare, and the City Engineer shall review and approve a Water Quality Management Plan (WQMP) on the Project site. The WQMP shall meet the City's requirements for such studies and include but not be limited to Best Management Practices (BMPs) for long-term water quality to be implemented by the Project after the completion of construction. The WQMP shall identify appropriate post-construction (operational) BMPs to address increases in impervious surfaces, methods to decrease incremental increases in off-site stormwater flows, and methods for decreasing pollutant loading in off-site discharges as required by the applicable NPDES requirements. All submitted plans shall be consistent with the WQMP. This measure shall be implemented to the satisfaction of the City Engineer.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The results of the analysis indicate the environmental factors checked below will be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist.

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

Summary of potentially significant impacts that could occur with implementation of this project: (describe)

None – the Initial Study determined that all potential project impacts are less than significant with mitigation, less than significant, or there is no impact.

DETERMINATION:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

X 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 mitigationmeasures 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.

Signature	Date
Monique Alaniz-Flejter, Senior Planner	City of Hemet, California
Printed Name and Title	

ENVIRONMENTAL CHECKLIST QUESTIONS

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS				
Except as provided in Public Resources Code Section 21099, will the project:				
a) Have an adverse effect on a scenic vista?	☐	☐	☑	☐
b) Damage scenic resources, including, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☑	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, will the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☑	☐
d) Create a new source of light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☑	☐

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

Scenic Highways: https://dot.ca.gov/hq/LandArch/16_livability/scenic_highways/scenic_hwy.htm

Project site plan and elevations.

Explanation of Checklist Responses

a) Less Than Significant Impact. Scenic vistas can be impacted by development in two ways. First, a structure may be constructed that blocks the view of a vista. Second, the vista itself may be altered (i.e., development on a scenic hillside). The mountains surrounding the Hemet valley are critical to the overall visual character and provide scenic vistas for the community. Topography and a lack of dense vegetation or urban development offer scenic views throughout the City, including to and from hillside areas. Scenic features include gently sloping alluvial fans, rugged mountains and steep slopes, mountain peaks and ridges, rounded hills with boulder outcrops, farmland, and open space. Scenic vistas provide views of these features from public spaces.

According to the Hemet 2030 General Plan, the San Jacinto Mountains, the San Bernardino National Forest and Mountains, and the San Gabriel Mountains provide a scenic background of vista points that enhance the visual character of Hemet, highlight distinguishing landmarks, and offer a sense of direction or orientation as people move about the community. Preserving view corridors for the enjoyment of future generations through design and development standards is a goal of the City. Hemet contains and is surrounded by natural topographic beauty. Within the General Plan Area are hillsides and hilltops with spectacular views. Unique landforms and hillsides include the hills at Diamond Valley Lake, Lakeview Mountains, Santa Rosa Hills, Tres Cerritos Hills, and Park Hill. Two of the most significant canyons in the Planning Area are Bautista Canyon and Reinhardt Canyon. The canyons offer a range of biological and agricultural resources as well as opportunities for recreation and residential development. The Hemet area contains numerous rock outcroppings of various sizes that provide natural beauty and are a regionally unique asset. Many have been incorporated into parkland, residential developments, and open space areas. Figure 7.1 of the General Plan shows the locations of City's natural and open space resources. These scenic vistas are typically viewed from publicly accessible areas, including parks and roadways.

Many of these scenic vistas are outside the City limits and beyond the Project area boundary so views of these vistas vary given their distance from the Project area. The Project is located at the northwest corner of State Street and Crows Nest Place, in the north-central portion of the City. To the north of the site are industrial and commercial uses and vacant land. To the east of the site is a self-storage use and vacant land. To the south of the site is a self-storage use and a mobile home park. To the west of the site are rural residential single-family homes. The major aesthetic resources within the Project area include views of the mountains and southerly views of the valley. The manmade environment is equally important in terms of scenic values. Buildings, landscaping, and signs often dominate the view. Agricultural uses such as citrus groves are less common but are also visually pleasing features. Views of these vistas will be partially blocked along State Street by the proposed Project.

The Project is requesting a Conditional Use Permit (CUP) to allow an increase in maximum height of two of the Project buildings. The maximum height within the C-M zone is 35 feet but Buildings B and C are proposed with a maximum height of 60 feet at the highest point of the roof. These two buildings are in the northeast portion of the site which is also at a lower elevation than the western portion of the site which is adjacent to a mobile home park to the south and rural residential to the west. Therefore, Buildings B and C will not block views or scenic vistas of the San Jacinto and San Bernardino Mountains to the north and will not substantially block views to the east of the Santa Rosa Mountains.

As discussed in the General Plan Draft EIR, General Plan policies and programs will reduce impacts on scenic vistas. Policy OS-2.2 uses the development review process in order to conserve view corridors, rock outcroppings, ridgelines, and other landscape features. The Project is located along a view corridor State Street) but is not located in an area with rock outcroppings, ridgelines, or other landscape features. The proposed Project is subject to the development review process. Policy OS-2.8 directs the City to coordinate with Riverside County to protect hillside views outside the Project area. Program OS-P.1 changes the City's Zoning Ordinance to include restrictions in the Open Space zone and Hillside Overlay to preserve the natural open space character in parts of the city. The proposed Project is not located in any hillside area or open space area. Program OS-P-10 will require project reviews to consider impacts to view corridors of mountains, rock outcroppings, and other visual resources. Program CD-P-11 employs hillside preservation and protection techniques through the development review process, including the adoption of hillside development design standards for building height and material selection, grading, and street layout. Program CD-P-14 directs additional Zoning Code updates regarding building heights along Florida Avenue to maximize views of the San Jacinto Mountains and other scenic resources. Implementation of these policies and programs will reduce proposed Project impacts associated with scenic vistas to a less than significant level because the City's Zoning Ordinance includes restrictions to preserve natural open space character, and specific view corridors is considered in review of projects. The Project itself will not alter an existing scenic vista within or outside the City or obstruct such views. Therefore, this impact will be **less than significant.** No mitigation measures are required.

b) Less Than Significant Impact. According to the California Department of Transportation (Caltrans)

State Scenic Highway Program website, there is a designated state scenic highway located in the City of Hemet (State Route 74/West Florida Avenue). The Project site is located approximately 1.5 miles north of this state scenic highway. The proposed structures will comply with height restrictions of the City of Hemet Zoning Code and will not encroach onto any views of State Route 74/West Florida Avenue. The Project site does not contain any scenic resources, including, trees, rock outcroppings, or historic buildings that could be damaged by the proposed Project. Impacts will be **less than significant.** No mitigation measures are required.

c) Less Than Significant Impact. The overall visual character of Hemet can be described as a mix of suburban and rural residential land uses. Large, undeveloped parcels are distributed throughout the Project area, contributing to open views toward the surrounding mountains and hillsides. According to the General Plan EIR, implementation of the General Plan will result in conversion of land within the planning area from agricultural and open landscapes to urban development. Areas identified for new urban development in the General Plan include portions of west Hemet and areas in the southern portion of the planning area; however, the Project site also falls into this general category as it is an undeveloped site and is surrounded on two sides by undeveloped parcels. The character of the proposed development will be similar to that which is already present throughout urbanized portions of the Project area. The General Plan EIR noted that anticipated changes from a visual environment where rural residential, agricultural, and open space uses are predominant to a mix of housing, shops, schools, parks, and other urban land uses will constitute a substantial change. Development in previously undeveloped areas could also result in the destruction of scenic resources (such as rock outcroppings and landmark trees) through site grading, trenching, and other construction activities. This includes the Project site and area, which includes a mix of industrial, commercial, and residential uses and vacant land.

General Plan policies and programs have been adopted by the City to maintain and enhance the quality of the visual character in and around Hemet. Policy OS-2.2 uses the development review process to conserve view corridors, rock outcroppings, ridgelines, and other important landscape features. The proposed Project is subject to the development review process. Policy OS-2.8 directs the City to coordinate with Riverside County to protect hillside views that are outside of the planning area. Program OS-P.1 changes the City's Zoning Ordinance to include restrictions in the Open Space zone and Hillside Overlay to preserve natural open space character in parts of the city. The proposed Project is not located in any hillside area or open space area. Program OS-P-10 will require project reviews to consider impacts to view corridors of mountains, rock outcroppings, and other visual resources. The Project is located along a view corridor (State Street); however, the project review process will ensure impacts to view corridors of mountains will be minimal. Implementation of these policies and programs will reduce Project impacts associated with visual character to **less than significant**. No mitigation measures are required.

d) Less Than Significant Impact. Excessive or inappropriately directed lighting can adversely impact night-time views by reducing the ability to see the night sky and stars. Glare can be caused from unshielded or misdirected lighting sources. Reflective surfaces (i.e., polished metal) can also cause glare. Impacts associated with glare range from simple nuisance to potentially dangerous situations (i.e., if glare is directed into the eyes of motorists). Sources of daytime glare are typically concentrated in commercial areas and are often associated with retail uses. Glare results from development and associated parking areas that contain reflective materials such as hi-efficiency window glass, highly polished surfaces, and expanses of pavement.

Hemet is surrounded by open and agricultural lands that contain few major sources of light and glare. By contrast, urban land uses generate light and glare, which affect the brightness of the night sky. Urban uses in the Project area already generate substantial light and glare that affect nighttime views in rural areas. However, development of the Project could potentially increase existing levels of light and glare in the Project area. These additional sources of nighttime skyglow could potentially obscure nighttime views of stars. Furthermore, Project development could create additional reflective surfaces and cause additional glare, including glare affecting motorists traveling along State Street during both night and day.

There are lighting sources adjacent to the site, including free-standing streetlights, light fixtures on buildings, and pole-mounted lights. The proposed Project includes exterior street lighting and interior lighting. The Hemet General Plan includes programs to reduce new sources of light and glare. Program CD-P-20 requires lighting practices that reduce light pollution in new development areas and requires new lighting and existing lighting upgrades to cast light downward and reduce spillover lighting. This program will also limit the amount of reflective surfaces used in construction of the proposed Project to minimize new sources of glare. Light spillover will be avoided by requiring that fixtures be designed to shine downward on adjacent properties per the requirements of Municipal Code Section 90-1046(e) (Site Development Requirements). Section 90-1046(e) of the Municipal Code requires all exterior lighting to be directed or shielded away from nearby residential zones and contained within the boundaries of the site. Further, Section 90-1048 (Performance Standards) prohibits uses that create direct or sky-reflecting glare detectable by the human senses. Compliance with the Municipal Code standards for lighting and glare will ensure that lighting and glare impacts will be less than significant. Therefore, this impact will be **less than significant**. No mitigation measures are required.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES				
Will the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, 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 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?	☐	☐	☐	☑

Sources

California Department of Conservation. Farmland Mapping and Monitoring Program. Riverside County Important Farmland Map Sheet 1 of 3. 2014.

California Department of Conservation. Williamson Act Program. ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Riverside_w_15_16_WA.pdf [Accessed March 2020].

City of Hemet. *City of Hemet General Plan Environmental Impact Report,* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

MIG. *Phase I Cultural Resources Assessment S2A Modular Factory Project.* March 26, 2020. (See Appendix C)

<u>Explanation of Checklist Responses</u>

a) Less Than Significant Impact. According to the 2030 General Plan, Farmland of Local Importance is the dominant category of agricultural land within the City's boundaries. The majority of the Prime Farmland is located in Bautista Canyon, and much of it is protected as agricultural preserves. A preservation easement held by the Wildlife Heritage Foundation conserves 486 acres in perpetuity of which approximately 250 acres are suitable for citrus-fruit crops. Existing agricultural land is shown in Figure 7.1 of the General Plan.

The proposed Project is located on an undeveloped site which is surrounded by industrial uses and vacant land to the north, a self-storage use and vacant land to the east, a self-storage use and mobile home park to the south, and rural residential single-family homes to the west. There are no signs or recorded documentation indicating that the site has been historically used for agriculture. The map of Important Farmland in California (2014) prepared by the Department of Conservation does not designate the site as being *Prime Farmland*, *Unique Farmland*, or *Farmland of Statewide Importance* by the Farmland Mapping and Monitoring Program (FMMP). However, the Project site is designated as *Farmland of Local Importance*, which means the site falls into one of four categories:

- Land with soils that will be classified as Prime or Statewide but lack available irrigation water;
- Lands planted with dryland crops of barley, oats, and wheat;
- Lands producing major crops for Riverside County but that are not listed as unique crops. These crops are identified as returning one million or more dollars on the 1980 Riverside County Agriculture Crop Report. Crops identified are permanent pasture (irrigated), summer squash, okra, eggplant, radishes, and watermelons;
- DairyLand's, including corrals, pasture, milking facilities, hay, and manure storage areas if accompanied with permanent pasture or hayland of 10 acres or more;
- Lands identified by a city or county ordinance as agricultural zones or contracts.

According to the Project Phase I Cultural Assessment, the field survey in the western portion of the Project site encountered a row of non-native (olive) trees, approximately 5-6 feet apart that were placed in a north/south direction. Additionally, historic aerial photographs suggest that the western portion of the Project site may have been part of an orchard or grove sometime around the 1950's. The Project site has since been re-designated for industrial use in local plans is designated for Industrial (FAR 0.45) in the City's General Plan and is zoned C-M Commercial-Manufacturing. The City's General Plan EIR Agricultural Resources section states that implementation of the General Plan will result in the eventual conversion of the majority of the agricultural uses within the City to urban uses. Further, none of the General Plan Land Use alternatives in the General Plan proposes a land use designation that will provide for the permanent preservation of agricultural land. While a majority of the planning area will eventually be converted to non-agricultural urban uses, some of the existing agricultural activities will continue as interim uses as allowed under the City's existing Development Code for all zoning categories. The conversion of agricultural land to urban uses is a long and continuing trend within the City. Although it is difficult to quantify the amount of agricultural land that is under development pressure, such pressure exists and will continue with or without implementation of the proposed Project. Thus, Hemet's future development emphasizes mixed-use, commercial, industrial, and residential projects rather than supporting the continuation of agricultural uses, which are becoming less economically viable. Therefore, impacts to Farmland will be **less than significant**, and no mitigation is required.

b) No Impact. According to the 2030 General Plan EIR, 2,189 acres of land are under Williamson Act contracts within the City. Although much of this area will remain designated for Agriculture or Open Space under General Plan buildout, it was anticipated that implementation of the General Plan will result in 1,778 acres currently zoned for agricultural uses to be designated for other uses, including urban uses such as offices, retail, housing, and schools. It was also anticipated that implementation of the General Plan will also result in 564 acres of land currently under Williamson Act contracts to be designated for non-agricultural uses and that the pressures of new urban development in these areas could also foster the conversion of adjacent agriculturally-zoned areas and lands in Williamson Act contracts to non-agricultural use.

The General Plan includes policies and programs that express the City's intent to conserve agricultural lands within the planning area by supporting the use of tools like conservation easements to protect agricultural uses (OS-3.1, OS-3.2, OS-3.3, OS-3.4, OS-P-12, OS-P-13). Policy OS-3.1 in particular requires the City to honor preservation and conservation easements in perpetuity in the Bautista Valley, where most of the agriculturally-zoned and Williamson Act contracted land in the planning area is located. Furthermore, lands under Williamson Act contracts in the planning area are all located beyond the current City limits. According to the California Department of Conservation, several Williamson Act contracts for prime and nonprime agricultural land are located in the Bautista Canyon area. Under a Williamson Act contract, the local jurisdiction and landowners agree to continue agricultural activities for at least 10 years. In return, the County agrees to assess the property at agricultural value rather than at market value. However, no Williamson Act contracts are active for the Project site. The site is designated for industrial use in the City's General Plan and Zoning Code. Therefore, there will be no conflict with existing zoning for agricultural use or a Williamson Act contract. **No impact** will occur.

c) No Impact. Public Resources Code § 12220(g) identifies forest land as *land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.* The Project site and surrounding properties are not currently being managed or used for forest land as identified in Public Resources Code § 12220(g). The Project site has already been disturbed and is surrounded by disturbed land on all sides. Therefore, development of this Project will have **no impact** to any timberland zoning.

d) No Impact. The Project site is vacant, disturbed land with limited non-native vegetation including grasses and non-mature trees. Thus, there will be no loss of forest land or conversion of forest land to non-forest use as a result of this Project. **No impact** will occur.

e) No Impact. The Project site is a vacant site within a semi-urbanized environment. The Project is surrounded by disturbed vacant land and development on all sides. None of the surrounding sites contain existing forest uses. Development of this proposed Project will not change the existing environment in a manner that will result in the conversion of forest land to a non-forest use. **No impact** will occur.

<u>Mitigation Measures</u>

None required.

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

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

MIG. *Air Quality, Greenhouse Gas, and Energy Analyses for S2A Modular Factory Project.* June 19, 2020. (See Appendix A)

Explanation of Checklist Responses

a) Less Than Significant Impact. An air quality study was prepared for the Project (MIG 2020). The Project site along with the entire City of Hemet and much of the County of Riverside is located in the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is required, pursuant to the federal Clean Air Act, to reduce emissions of criteria pollutants for which the basin is in nonattainment including ozone (O_3), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$). These are considered criteria pollutants because they are three of several prevalent air pollutants known to be hazardous to human health. An area designated as nonattainment for an air pollutant is an area that does not achieve national and/or state ambient air quality standards for that pollutant.

The SCAQMD has prepared an Air Quality Management Plan (AQMP) for the Basin to establish a comprehensive program to lead the Basin into compliance with all federal and state air quality standards. The 2016 Final AQMP issued by the SCAQMD in March 2017 is the most recent air quality plan released and is the current air quality plan in effect. The control measures and related emission reduction estimates included in the 2016 AQMP are based upon emission projections for a future development scenario derived from land use, population, and employment estimates from individual city general plans, approved specific plans, and in consultation with local governments. Accordingly, if a project demonstrates compliance with local land use plans and/or population projections, then the AQMP will have taken into account such uses, and the project will not conflict with implementation of the plan. In addition to the AQMP, regional plans prepared by the Southern California Association of Governments (SCAG) are also based on the land uses and growth projections used to prepare the AQMP. The most comprehensive regional plan applicable to the Project is the Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS).

The Project proposes 231,669 square feet of light industrial office and warehouse buildings on 32.1 acres for a factory to manufacture and sell modular homes. The Project as proposed has a Floor Area Ratio (FAR) of 0.166 (231,669 SF divided by 32.1 acres). The Project is consistent with both the General Plan land use designation Industrial (FAR 0.45) and the zoning classification Commercial-Manufacturing (C-M) for the site. The 2016 AQMP is based on the General Plan land use designations and growth projections of those anticipated land uses as they build out in the future. Therefore, the proposed Project is consistent with the land uses and growth projections for Hemet that were used to develop the 2016 AQMP and RTP/SCS.

A project that conflicts with or obstructs the implementation of the AQMP could hinder its implementation, delay efforts to meet attainment deadlines, and/or interfere with SCAQMD efforts to maintain compliance with, and attainment of, applicable air quality standards. Pursuant to the methodology provided in the SCAQMD *CEQA Air Quality Handbook*, consistency with the AQMP is affirmed if the Project Is consistent with the growth assumptions in the AQMP and does not increase the frequency or severity of an air quality standards violation or cause a new one.

The proposed Project will induce employment growth, but the number of jobs added to the City will be well within the growth assumptions for Hemet accounted for in the previous 2016 RTP/SCS or current 2020-2045 RTP/SCS which was 24,500 new jobs in Hemet between 2012 and 2040. Therefore, it will not conflict with the first consistency criterion.

As further described in Sub-Section 10.b below, the proposed Project will also not exceed the construction or operational air quality thresholds maintained by the SCAQMD. Therefore, the proposed Project will not conflict with or obstruct implementation of the SCAQMD 2016 AQMP. This impact will be **less than significant,** and no mitigation is required.

b) Less Than Significant Impact. The Basin is classified as in attainment for all criteria pollutants except for ozone, PM_{10}, and $PM_{2.5}$. The Basin is designated as a nonattainment area for federal ambient air quality standard (AAQS) for the 8-hour ozone, $PM_{2.5}$ standards and as partial nonattainment for lead (Pb) and is in nonattainment area under state 1- and 8-hour ozone, $PM_{2.5}$, and PM_{10} standards. Ozone is not emitted directly but is a result of atmospheric activity on precursors. NO_X and Reactive Organic Gases (ROG) are known as the chief “precursors” of ozone. These compounds react in the presence of sunlight to produce ozone.

The SCAQMD adopts rules that establish permissible air pollutant emissions levels for a variety of business, processes, operations, and products subject to Federal and State air quality requirements. In general, the proposed Project and its potential emissions sources will be subject to a number of State and SCAQMD rules, including Rule 401(Visible Emissions), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), Rule 1108 (Cutback Asphalt), Rule 1113 (Architectural Coatings), and Rule 1143 (Consumer Paint Thinners and Multi-Purpose Solvents). These SCAQMD rules will serve to limit and control the proposed Project’s potential to emit air pollutants. The proposed Project will generate both short-term construction emissions and long-term operational emissions.

Construction Emissions

The proposed Project involves the construction of a new, Tesla-powered modular smart home factory in two phases as outlined in the Project Description. Construction activities for both phases will include grading, vertical building development, paving, and architectural coating work. It is assumed site preparation work (e.g., removal of vegetation) will take place during the grading phases. The proposed Project's potential construction emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version (V.) 2016.3.2. Construction phase and duration and the type and amount of equipment used during construction were generated using CalEEMod default assumptions and modified as necessary to reflect project-specific data outlined in the Project Description of this document as well as the Project Air Quality Study (Appendix A). Compliance with established SCAQMD Rules outlined above was also assumed for this analysis. The proposed Project's maximum daily unmitigated construction emissions are shown in Table 1, *Daily Construction Emissions*.

As shown in Table 1, the proposed Project's maximum daily, unmitigated, construction criteria air pollutant emissions will be well below the SCAQMD's recommended regional pollutant thresholds. Therefore, Project construction will not generate criteria air pollutant emissions levels that exceed SCAQMD regional CEQA thresholds.

Table 1: **Daily Construction Emissions**

Construction Season	Maximum Pollutant Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Phase 1						
Summer 2020	11.7	96.7	91.8	0.2	13.9	6.4
Winter 2020	11.7	96.6	87.2	0.2	13.9	6.4
Summer 2021	66.4	23.7	28.8	0.0[A]	0.2	1.3
Winter 2021	66.4	23.7	28.4	0.0[A]	1.9	1.3
Phase 2						
Summer 2021	27.9	73.0	71.4	0.2	7.4	4.3
Winter 2021	27.9	72.9	69.6	0.2	7.4	4.3
Highest Value	*66.4*	*96.7*	*91.8*	*0.2*	*13.9*	*6.4*
SCAQMD Threshold	75	100	550	150	150	55
Exceeds Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Table 2: Unmitigated Maximum Daily Regional Construction Emissions, MIG, 2020.

[A] 0.0 does not mean zero but rather less than 0.05 but greater than zero.

Operational Emissions

Once operational, the proposed Project will generate long-term emissions from area or regional sources and mobile sources. The proposed Project's operational emissions were also estimated using CalEEMod, V. 2016.3.2. The modeling is based on the Project's first full year of operations which is assumed to be 2021 using default data assumptions generated by CalEEMod and modified as necessary to reflect the following project-specific data outlined in the Project Description of this document as well as the Project Air Quality Study (Appendix A). Compliance with established SCAQMD Rules outlined above was also assumed for this analysis. The proposed Project's maximum daily unmitigated operational emissions are shown in Table 2, *Daily Operational Emissions*.

As shown in Table 2, the proposed Project's maximum daily, unmitigated, operational criteria air pollutant emissions will be well below the SCAQMD's-recommended regional pollutant thresholds. Therefore, Project operations will not generate criteria air pollutant emissions levels that exceed SCAQMD regional CEQA thresholds. This impact will be less than significant.

Table 2: Daily Operational Emissions

Emissions Source	Maximum Daily Pollutant Emission (Pounds Per Day) [A]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area Sources	5.4	0.0[B]	0.1	0.0[B]	0.0[B]	0.0[B]
Energy Demand[C]	0.0	0.0	0.0	0.0	0.0	0.0
Mobile Sources	2.0	17.1	29.4	0.1	8.8	2.5
Total Daily Emissions[D]	7.4	17.1	29.5	0.1	8.8	2.5
SCAQMD Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	***No***	***No***	***No***	***No***	***No***	***No***

Source: Table 3: Unmitigated Maximum Daily Regional Operational Emissions, MIG 2020.

Notes

[A] Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. Maximum daily ROG, CO, SO_X emissions occur during the summer. Maximum daily NO_X emissions occur during the winter. In general, due to rounding, there is no difference between summer and winter PM_{10} and $PM_{2.5}$ emissions levels for the purposes of this table.

[B] "0.0" does not mean emissions are zero but rather emissions are less than 0.01 but greater than 0.

[C] The proposed Project will be a "Zero Net Energy" (ZNE) facility and therefore will offset any emissions associated with energy consumption though the generation of onsite renewable electricity.

[D] Totals may not equal due to rounding.

Localized Construction and Operational Emissions

In addition to regional CEQA thresholds, the SCAQMD has also developed Local Significance Thresholds (LSTs) that represent the maximum emissions from a project that are expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards, which will result in significant adverse localized air quality impacts.

The Project's maximum daily construction emissions are compared against the SCAQMD's-recommended LSTs thresholds in Table 3, *Local Significance Thresholds Construction Analysis*. Consistent with the SCAQMD's LST methodology, the emissions included in the construction LST analysis are onsite emissions only, and the LST against which these onsite emissions are compared are based on the project size in acres. The LST thresholds are for source receptor area (SRA) 28, the SRA in which the proposed Project is located, and are based on a receptor distance of 82 feet, the closest LST receptor distance thresholds recommended for use by the SCAQMD. The construction LSTs are provided for 1-, 2-, and 5-acre project sizes. Although the proposed Project will be much larger than 5 acres, this analysis conservatively uses the 5-acre LST values for evaluation purposes.

As shown in Table 3, the proposed Project's construction emissions will not exceed the SCAQMD's recommended construction LSTs. Project construction, therefore, will not generate criteria air pollutant emissions levels that exceed SCAQMD local CEQA thresholds. Typically, operations related LSTs become a concern when there are substantial on-site stationary or on-site mobile sources (e.g., heavy duty or idling trucks) that could impact surrounding receptors. This is not the case for the proposed Project, however, since the Project will utilize all electric equipment, including Tesla-powered trucks for product delivery. Therefore, it was not necessary to conduct an operational LST analysis for the Project.

Summary of Results

The preceding analysis has demonstrated the proposed Project will not generate short-term or long-term emissions that exceed SCAQMD-recommended pollutant thresholds. This analysis assumes the Project will comply with applicable SCAQMD rules (e.g., Rule 403 regarding fugitive dust). This is considered regulatory compliance and not unique project mitigation under CEQA. Therefore, the Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard. Impacts be **less than significant,** and no mitigation is required.

Table 3: **Local Significance Thresholds Construction Analysis**

Construction Phase[A, B]	Maximum Pollutant Emissions (Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 1				
Grading 2020	71.5	45.5	7.9	4.8
Building Construction 2020	65.4	57.3	3.8	3.6
Paving 2021	23.6	26.7	1.2	1.1
Architectural Coating 2021	3.1	3.6	0.2	0.2
Phase 2				
Grading 2021	24.7	15.9	3.7	2.4
Building Construction 2021	61.6	58.6	3.4	3.2
Paving 2021	10.8	12.3	0.6	0.5
Architectural Coating 2021	1.5	1.8	0.1	0.1
SCAQMD LST Threshold[C]	371	1,965	13	8
Exceeds Threshold?	*No*	*No*	*No*	*No*

Source: Table 4: Local Significance Thresholds Construction Analysis. MIG 2020.

Notes
(A) Emissions estimated using CalEEMod, v. 2016.3.2 based on default model assumptions unless otherwise noted in MIG 2020.
(B) Emissions presented are worst-case emissions and may reflect summer or winter emission levels. In general, due to rounding, there is no difference between summer and winter emission levels for the purposes of this table.
(C) The LSTs are based on 5.0-acre project size and 25-meter receptor distance.

c) Less Than Significant Impact. A sensitive receptor is a person in the population who is more susceptible to health effects due to exposure to an air contaminant than is the population at large. Examples of sensitive receptor locations in the community include residences, schools, playgrounds, childcare centers, churches, athletic facilities, retirement homes, and long-term health care facilities. The closest sensitive receptors to the site are: (1) the single-family, ranch-style homes immediately west of the Project site; (2) residences in the Desert Sky RV Park, immediately southwest of the Project site; and (3) park receptors at the Searl Youth Sports Park, approximately 915 feet southeast of the Project site.

In addition to criteria air pollutants, certain pollutants are classified as Hazardous Air Pollutants (HAPs) or Toxic Air Contaminants (TACs) which can cause severe health effects at very low concentrations (non-cancer effects), and many are suspected or confirmed carcinogens (i.e., can cause cancer). People exposed to HAPs/TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and/or other health problems.

A portion of the PM_{10} and $PM_{2.5}$ emissions generated during construction of the Project will be diesel particulate matter, or DPM, a known TAC. The proposed Project's construction activities will not expose adjacent residential receptors to substantial levels of DPM that will pose a substantial adverse health risk for the following reasons:

- The proposed Project does not involve substantial earthmoving or grading activities that will require large amounts of heavy-duty equipment associated with the highest DPM emissions.
- The majority of Project construction will be located toward the middle-to-northern portions of the Project site, which will give pollutants additional time and space to disperse with the prevailing winds that are generally from the north-northwest and south-southeast (i.e., toward land uses that are not considered to be sensitive).
- Potential long-term adverse health risks from DPM are evaluated assuming a constant exposure to emissions over a 70-year lifetime, 24 hours a day, seven days a week, with increased risks generally associated with increased proximity to emissions sources.

Since construction activities will only generate DPM emissions on an intermittent, short-term basis (i.e., approximately one year), DPM emissions from construction activities will be unlikely to result in adverse health effects to existing sensitive receptors that exceed the SCAQMD's significance criteria.[1] This impact will be **less than significant** and no mitigation is required.

d) Less Than Significant Impact. According to the SCAQMD CEQA Air Quality Handbook, land uses associated with other emissions and odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). Odors and other emissions are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills. Implementation of the proposed Project may result in short-term odors during construction associated with fueling and fuel combustion, however, these odors will be quick to disperse and will not affect a substantial number of people.

The Project is required to comply with SCAQMD Rule 402 (Rule 402) during construction which states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The Project is also required to comply with SCAQMD Rule 403 during grading which states prior to grading permit issuance, all applicable measures shall be incorporated into Project plans and specifications as implementation of Rule 403, which include but are not limited to: 1) All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions; 2) The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day; and 3) The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are reduced to 15 miles per hour or less.

Compliance with Rules 402 and 403 is considered regulatory compliance and is not considered unique mitigation under CEQA. Based on available information, potential impacts from other emissions and odors during construction and operation of the Project will be **less than significant** and no mitigation is required.

<u>Mitigation Measures</u>

None required.

[1] The SCAQMD has established the following thresholds of significance for projects that generate TAC emissions: Maximum Incremental Cancer Risk ≥ 10 in 1 million; Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million); Chronic & Acute Hazard Index ≥ 1.0 (project increment) (SCAQMD, 2019).

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES				
Will the project:				
a) Have an 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 an adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☑
c) Have an adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d) Interfere 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 Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

<u>Sources</u>

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

Hernandez Environmental Services (HES). *General Biological Assessment and Western Riverside County MSHCP Consistency Analysis for APNs 43-9030-009 & 439-030-010*. June 2019. (See Appendix B)

Hernandez Environmental Services (HES). Burrowing Owl Survey Report for Assessor Parcel Numbers 439-030-009 and 439-030-010 located in Riverside County, California. June 7, 2019. (See Appendix B)

Explanation of Checklist Responses

a) **Less Than Significant Impact with Mitigation Incorporated.** A Biological Assessment and Burrowing Owl Survey for the Project site were completed by Hernandez Environmental Services (HES) to verify the type, location, and extent of potential sensitive biological resources within the site and vicinity (June 2019). HES conducted a literature review and reviewed aerial photographs and topographic maps of the Project sites and surrounding areas. A five-mile radius was used to identify sensitive species with the California Natural Diversity Data Base (CNDDB), the U.S. Fish and Wildlife Service (USFWS) Endangered Species Lists, and the California Native Plant Society (CNPS) rare plant lists to obtain species information for the Project area. The CNDDB and USFWS critical habitat databases were utilized, together with Geographic Information System (GIS) software, to identify the previously recorded locations of sensitive plant and wildlife occurrences and designated critical habitat and determine the distance from the Project sites. Additionally, the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) was reviewed for known occurrences of sensitive species within Riverside County.

The Western Riverside County MSHCP is a comprehensive, multijurisdictional habitat conservation planning program for Western Riverside County, California. The purpose of the Western Riverside County MSHCP is to preserve native habitats, and to this end, the plan focuses upon the habitat needs of multiple species rather than one species at a time. The Western Riverside County MSHCP provides coverage/take authorization for some species listed under the federal or state Endangered Species Act (ESA) as well as non-listed special-status plant and wildlife species. It also provides mitigation for impacts to special-status species and their associated habitats.

Through agreements with the USFWS and California Department of Fish and Wildlife (CDFW), 146 listed and special-status plant and animal species receive some level of coverage under the Western Riverside County MSHCP. Of the 146 covered species, the majority have no additional survey needs or conservation requirements. Furthermore, the Western Riverside County MSHCP provides mitigation for project-specific impacts to these species, thereby reducing the degree of impact to below a level of significance, pursuant to the California Environmental Quality Act (CEQA). Several of the species covered under the Western Riverside County MSHCP have additional survey requirements.

The Project site is located within the Western Riverside County MSHCP boundaries and is required to document consistency with the Western Riverside County MSHCP in conjunction with any discretionary approvals for the Project. The Project site is located within Western Riverside County MSHCP San Jacinto Valley Area Plan but is not located within an Area Plan Subunit, Criteria Cell, or Cell Group. Further, the Project site is not located within plan-defined areas requiring surveys for narrow endemic plant species, or criteria area plant species. However, the Project site is located within plan-defined areas requiring surveys for burrowing owl (*Athene cunicularia*).

On March 20, 2019, HES biologist Juan Hernandez conducted a field survey of the original northern and central portions of the site (26.22 acres) while MIG biologist Jon Campbell confirmed similar conditions on the southern 6-acre portion of the site and reviewed conditions on the entire 32-acre site in April 2020. The purpose of the field surveys were to document the existing habitat conditions, obtain plant and animal species information, view the surrounding land uses, assess the potential for state and federal waters, assess the potential for wildlife movement corridors, and assess the presence of constituent elements for critical habitat, if present. Linear transects spaced approximately 50 to 100 feet apart were walked across the Project site for 100 percent coverage. All species observed were recorded. Global Positioning System (GPS) waypoints were taken to delineate specific habitat types, species locations, state or federal waters, and any other information that will be useful for the assessment of the Project site. Results of the literature, field survey, and MSHCP consistency analysis are discussed below.

Special-Status Plants

The Project site is undeveloped, relatively flat, and heavily disturbed. The Project site contains only ruderal/weedy vegetation which is dominated by non-native plant species. Dominant vegetation observed in this habitat type includes ripgut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), black mustard (*Brassica nigra*), Russian thistle (*Salsola tragus*), London rocket (*Sisymbrium irio*), and filaree (*Erodium sp.*). A total of 15 plant species are: (a) listed as state and/or federal Threatened, Endangered, or Candidate species; (b) required to be reviewed under the Narrow Endemic Plant section of the Western Riverside MSHCP; (c) listed as 1B.1 plants on the CNPS Rare Plan Inventory; or (d) have been found to have a potential to exist on the Project sites. A total of 7 sensitive habitats have the potential to occur including Canyon Live Oak Ravine Forest, Desert Fan Palm Oasis Woodland, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Mixed Riparian Forest, Southern Riparian Scrub, and Southern Sycamore Alder Riparian Woodland. However, none of these sensitive habitats were found to occur within the Project site and no special-status plant species were detected on the Project site during the March 20, 2019 field survey or supplemental April 2020 walkover. None of the sixty-four (64) special-status plant species found in the vicinity of the Project site (refer to section 3.6.1 of the Biological Assessment) are expected due to a lack of suitable habitat.

Special-Status Wildlife

Of the 18 animal species listed as state and/or federal Threatened, Endangered, Candidate within the Project vicinity, there is potential for the following species to be present on site: coastal whiptail (*Aspidoscelis tigris stejnegeri*); California horned lark (*Eremophila alpestris actia*); Los Angeles pocket mouse (*Perognathus longimembris brevinasus*); and coast horned lizard (Phrynosoma blainvillii). However, each of the species that has potential to occur on site are covered by the Western Riverside MSHCP and are considered adequately conserved.

Burrowing Owl

A habitat assessment conducted for burrowing owl determined that the Project site provides suitable habitat for the species. Therefore, focused burrowing owl surveys were conducted for the Project site. Although the Project site supports fossorial mammal burrows, rock outcrops, and non-natural substrates capable of supporting the burrowing owl (BUOW), no BUOW or BUOW sign was observed at the entrance or adjacent to these burrows within the study area. Despite systematic searches of the Project site and 150-meter buffer area, no BUOW or evidence (i.e., including scat, pellets, feathers, tracks, and prey remains) were found which suggest recent or historical use of the study area by BUOW. Therefore, it can be concluded that BUOW are not currently present within the study area.

However, because the Project area is located within the Western Riverside County MSHCP burrowing owl survey area, it is recommended that a preconstruction survey be performed prior to the commencement of Project activities. Therefore, implementation of **Mitigation Measure BIO-1** is required to reduce potential impacts to burrowing owl to a **less than significant** level.

Nesting Birds

Vegetation communities on the Project site have the potential to provide nesting habitat for bird species protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC) Sections 3503 and 3513. Although no active nests were observed during the March 20, 2019 field survey or April 2020 confirmational walkover, there is potential for ground- and tree-nesting birds to establish nests on the Project site prior to Project construction. If the Project will remove shrubs or trees between February 1 and September 15, the Project will have a potential to impact nesting birds. Destruction of, or disturbance to, an active nest is prohibited. Construction activities including site mobilization, tree removal other vegetation clearing activities, grubbing, grading, and noise/vibration from the operation of heavy equipment also has the potential to result in significant direct (i.e., death or physical harm) and/or indirect (i.e., nest abandonment) impacts to nesting birds. Implementation of **Mitigation Measure BIO-2** will be required to reduce potential impacts to nesting birds to a **less than significant** level.

b) No Impact. Based on the results of the field surveys, the Project site does not contain any riparian habitat or other sensitive natural community. Therefore, **no impacts** to riparian habitat or other sensitive natural vegetation communities are anticipated.

c) No Impact. The drainage feature crossing the Project site does not contain any riparian habitat regulated under Section 1602 of the Fish and Game Code. Further, Project site does not contain any "waters of the United States" (WUS) that will be under the jurisdiction of the Federal CWA or riparian/wetland habitat that will be considered Western Riverside MSHCP riparian/riverine resources. The Project site does not contain any state or federal jurisdictional drainages, streams, or lakes. No vernal pools are located within the Project area. Therefore, **no impact** to on state or federally protected wetlands.

d) No Impact. Wildlife movement corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbances. The Project site was evaluated for its function as a wildlife corridor that species will use to move between wildlife habitat zones. The Project site is relatively flat and surrounded by commercial and residential structures. No wildlife movement corridors were found to be present on the Project site. The Project site does not contain mountain canyons or riparian corridors between major wildlife habitats. The Project site is surrounded by commercial and residential structures. No wildlife movement corridors were found to be present on the Project site and **no impact** will occur.

e) Less than Significant Impact. Should the proposed Project result in the removal of trees, it will be required to prepare a tree preservation plan according to City Municipal Code Section Sec. 70-163. - Filing of application regarding removal of trees. The Project will not otherwise conflict with local policies or ordinances protecting biological resources. Impacts will be **less than significant**.

f) No Impact. The biological assessment for the Project determined it is consistent with the MSHCP so no impacts to adopted habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans are expected. The proposed Project site contains a drainage feature, but it is not subject to regulatory jurisdiction or associated riparian/wetland habitat that would be considered Western Riverside MSHCP riparian/riverine resources. Further, the site does not contain any depressions or areas where water could pool so no vernal pools or suitable habitat for fairy shrimp occur on the site.

The Project site is not located within or adjacent to a Western Riverside County MSHCP Conservation Area, therefore, the Project is not required to address Section 6.1.4 of the Western Riverside County MSHCP. The Project site is not located within plan-defined areas requiring surveys for narrow endemic plant species, or criteria area plant species. However, the Project site is located within plan defined-areas requiring surveys for burrowing owl (*Athene cunicularia*). A habitat assessment conducted for burrowing owl determined that the Project site provides suitable habitat for the species. Therefore, focused burrowing owl surveys were conducted for the Project site.

Focused burrowing owl surveys found that although the Project site supports fossorial mammal burrows and non-natural substrates capable of supporting BUOW, no BUOW or BUOW sign was observed at the entrance or adjacent to the burrows located within the study area. Despite systematic searches of the Project site and 150-meter buffer area, no BUOW or evidence (i.e., including scat, pellets, feathers, tracks, and prey remains) were found which suggest recent or historical use of the study area by BUOW. Therefore, it can be concluded that BUOW are not currently present within the Project area and will not be impacted as a result of this Project. **No impact** will occur as a result of conflicts with adopted habitat conservation plans.

Mitigation Measures

BIO-1 Pre-Construction Burrowing Owl Survey. A burrowing owl pre-construction survey shall be conducted on the Project site within fourteen (14) days prior to ground disturbance to avoid direct take of burrowing owls. The pre-construction survey will follow the guidance outlined in Burrowing Owl Survey Instructions for the Western Riverside MSHCP (2006).

BIO-2 Pre-Construction Nesting Bird Survey. If vegetation removal is scheduled during the nesting season (typically February 1 to September 1), then a focused survey for active nests shall be conducted by a qualified biologist (as determined by a combination of academic training and professional experience in biological sciences and related resource management activities) no more than five (5) days prior to the beginning of project-related activities (including but not limited to equipment mobilization and staging, clearing, grubbing, vegetation removal, and grading). Surveys shall be conducted in proposed work areas, staging and storage areas, and soil, equipment, and material stockpile areas. For passerines and small raptors, surveys shall be conducted within a 250-foot radius surrounding the work area (in areas where access is feasible). For larger raptors, the survey area shall encompass a 500-foot radius. Surveys shall be conducted during weather conditions suited to maximize the observation of possible nests and shall concentrate on areas of suitable habitat. If a lapse in project-related work of five (5) days or longer occurs, an additional nest survey shall be required before work can be reinitiated. If nests are encountered during any preconstruction survey, a qualified biologist shall determine if it may be feasible for construction to continue as planned without impacting the success of the nest, depending on conditions specific to each nest and the relative location and rate of construction activities. If the qualified biologist determines construction activities have potential to adversely affect a nest, the biologist shall immediately inform the construction manager to halt construction activities within minimum exclusion buffer of 50 feet for songbird nests, and 200 to 500 feet for raptor nests, depending on species and location. Active nest(s) within the Project site shall be monitored by a qualified biologist during construction if work is occurring directly adjacent to the established no-work buffer. Construction activities within the no-work buffer may proceed after a qualified biologist determines the nest is no longer active due to natural causes (e.g. young have fledged, predation, or other non-human causes of nest failure).

	Potentially Significant Impact	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
V. CULTURAL RESOURCES				
Will the project:				
a) Cause an adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☑
b) Cause an adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☑	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☑	☐	☐

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

MIG. *Phase I Cultural Resources Assessment S2A Modular Factory Project*. March 26, 2020. (See Appendix C)

Explanation of Checklist Responses

a) No Impact. The Project site does not satisfy any of the criteria for a historic resource defined in Section 15064.5 of the State CEQA Guidelines. The site is not listed with the State Office of Historic Preservation (SHPO) or the National Register of Historic Places. The Project site is vacant and there are no known historically or culturally significant resources, structures, buildings, or objects located on the Project site. Results of the California Historical Resources Information System – Eastern Information Center (CHRIS-EIC) indicated that there were no previously recorded historical resources within the Project Area and no historical resources were identified during the pedestrian survey conducted as part of the Phase I Cultural Resources Assessment. However, there is one (1) historic site: P-33-012805/CA-Riv-007152H (landscape and debris scatter), and three (3) historic built environments (P-33-014709, P-33-019840, and P-33-019841) located within a one-mile radius of the Project site. These historic resources will not be impacted by the proposed Project; therefore, no impact analysis of historical resources is necessary. As such, the proposed Project will not cause an adverse change in the significance of a historical resource and impacts to historic resources are not anticipated. Therefore, **no impact** will occur, and no mitigation is required.

b) Less Than Significant Impact with Mitigation Incorporated. The Project site has been previously disturbed by past activities. On February 27, 2020, MIG conducted a records search of the Study Area at the CHRIS-EIC. The records search included a review of all recorded archaeological and historical resources within a one-mile radius of the Study Area, as well as a review of cultural resource reports and historic topographic maps on file. In addition, MIG reviewed the California Points of Historical Interest (CPHI), the California Historical Landmarks (CHL), the California Register, the National Register, and the California State Historic Resources Inventory (HRI) listings. The purpose of the records search is to determine whether previously recorded archaeological or historical resources exist within the Study Area that require evaluation and treatment. The results also provide a basis for assessing the sensitivity of the Study Area for additional cultural resources. According to the Phase I Cultural Resources Assessment, results of the records research conducted at the Eastern Information Center (CHRIS-EIC) indicate that there are no archaeological resources located within the Project's Area of Potential Effects (APE). The City of Hemet Archaeological Resources Sensitivity Map was also reviewed and found the Project site to be in an area of low sensitivity for archaeological resources. Further, there were no archaeological resources identified during the pedestrian survey; therefore, no evaluation of archaeological resources is necessary.

Therefore, the proposed Project will result in no substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5. within the Project site or within a one-mile radius of the Study Area and there is one (1) historic archaeological isolate (P-33-013156) located within a one-mile radius of the Study Area. A review of the City of Hemet Archaeological Resources Sensitivity Map found that the Project site to be located in area of low sensitivity for archaeological resources. The one historic archaeological isolate will not be impacted by the proposed Project. There were no archaeological resources identified during the pedestrian survey; therefore, no evaluation of archaeological resources is necessary. However, despite the disturbances of the Project site that may have displaced archaeological resources on the surface, it is possible that intact archaeological resources exist at depth. As a result, Mitigation Measures CUL-1 through CUL-4 have been incorporated to reduce potentially significant impacts to previously undiscovered archaeological resources that may be accidentally encountered during Project implementation to a less than significant level. Mitigation Measure CUL-1 requires the applicant to conduct archaeological sensitivity training for construction personnel. Mitigation Measure CUL-2 requires the applicant to retain a qualified archaeologist to conduct periodic archaeological resources spot checks during grading and earth-moving activities in younger Alluvial sediments. Mitigation Measure CUL-3 requires the developer to cease ground-disturbing activities and implement a treatment plan if archaeological resources are encountered. Mitigation Measure CUL-4 requires preparation of a final report upon completion of monitoring services. With implementation of **Mitigation Measures CUL-1 through CUL-4**, impacts will be **less than significant**.

c) Less Than Significant Impact with Mitigation Incorporated. No known human remains have been identified from the database within a one-mile radius of the Study Area. No human remains were identified during the pedestrian survey of the Study Area. However, these findings do not preclude the existence of previously unknown human remains located below the ground surface, which may be encountered during construction excavations associated with the proposed Project. Similar to the discussion regarding archaeological resources above, it is also possible to encounter buried human remains during construction given the proven prehistoric occupation of the region, the identification of multiple surface archaeological resources within two-miles of the Study Area, and the favorable natural conditions that will have attracted prehistoric inhabitants to the area. Mitigation Measure CUL-5 addresses the finding of human remains. With implementation of **Mitigation Measure CUL-5**, potential impacts regarding human remains will be **less than significant**.

<u>Mitigation Measures</u>

The following measures reflect input from the Soboba Tribe during the consultation process on this Project:

CUL-1 **Archaeological Monitoring.** Prior to ground disturbing activity, the applicant shall retain a registered professional archaeologist (RPA), and the registered professional archaeologist shall conduct monitoring of all mass grading and trenching activities. The Project Archaeologist shall have the authority to temporarily redirect earthmoving activities in the event that suspected archaeological resources are unearthed during Project construction.

CUL-2 **Cultural Resource Management Plan**. A Cultural Resource Management Plan shall be developed by the Project Archaeologist, in consultation with the Soboba Band of Luiseno Indians, the contractor, and City, to address the documentation process for discovered resources, temporary storage of the items, limited non-destructive analysis, treatment and final disposition in accordance with CR-4. Details in the Plan shall include:

a. The protocols and stipulations to be followed in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.

b. Treatment of inadvertent discoveries limited to basic recordation and non-destructive analysis.

c. Pre-grading meeting with the City, the construction manager and any contractors, including but limited to a mandatory Workers Environmental Awareness Training (WEAP) to those in attendance. The Training will include a brief review of the cultural sensitivity of the Project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols.

CUL-3 **Tribal Monitoring.** Prior to the issuance of a grading permit, and prior to the commencement of ground disturbing activity, the applicant shall secure an agreement with the Soboba Band of Luiseno Indians for Tribal Monitoring and the Treatment and Disposition of all tribally associated artifacts discovered within the project boundaries. Native American Monitor(s) from the Soboba Band of Luiseno Indians shall conduct monitoring of all initial ground disturbing activities associated with the project. The Native American Monitor(s) shall have the authority to temporarily redirect earthmoving activities in the event that suspected archaeological resources are unearthed during project construction.

CUL-4 **Inadvertent Discoveries.** In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries:

a) One or more of the following treatments, in order of preference, shall be employed, and evidence of such shall be provided to the City:

i. Preservation-In-Place of the cultural resources, if feasible. Preservation in place is defined as avoiding the resources, leaving them in the place they were found with no development affecting the integrity of the resources.

ii. Onsite reburial of the discovered items. This shall include measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed. No recordation of sacred items is permitted without the written consent of the Soboba Band of Luiseno Indians. The location for the future reburial area shall be identified on a confidential exhibit on file with the City, and concurred to by the Soboba Band of Luiseno Indians prior to certification of the environmental document.

CUL-5 **Discovery of Human Remains.** In accordance with Section 7050.5 of the California Health and Safety Code, if human remains (or remains that may be human) are discovered at the project site during grading or earthmoving, the construction contractors, project archaeologist, and/or designated Native American Monitor shall immediately stop all activities within 100 feet of the find. The project proponent shall then inform the Riverside County Coroner and the City of Hemet Planning Department immediately. The coroner shall be permitted to examine the remains as required by California Health and Safety Code Section 7050.5(b). Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If human remains are determined as those of Native American origin, the applicant shall comply with the state relating to the disposition of Native American burials that fall within the jurisdiction of the NAHC (PRC Section 5097). The coroner shall contact the NAHC to determine the most likely descendant(s). The MLD shall complete his or her inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The Disposition of the remains shall be overseen by the most likely descendant(s) to determine the most appropriate means of treating the human remains and any associated grave artifacts, in consultation with the property owner and the lead agency.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY				
Will the project:				
a) Result in potentially significant environmental impact 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?	☐	☐	☑	☐

<u>Sources</u>

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

MIG. *Air Quality, Greenhouse Gas, and Energy Analyses for S2A Modular Factory Project.* June 19, 2020.

<u>Explanation of Checklist Responses</u>

a) Less Than Significant Impact. The proposed Project consists of the development of a new "Zero Net Energy" (ZNE) facility that will manufacture modular "smart" homes. Construction activities associated with the proposed Project will require the use of heavy-duty, off-road equipment and construction-related vehicle trips that will combust fuel, primarily diesel and gasoline. Heavy-duty construction equipment will be required to comply with CARB's airborne toxic control measures, which restrict heavy-duty diesel vehicle idling to five minutes. Off-road, heavy-duty equipment (e.g., excavators, loaders, etc.) are anticipated to consume approximately 82,073 gallons of diesel across the two construction phases, and on-road vehicle trips (e.g., construction worker commutes and vendor deliveries) are anticipated to consume 40,280 and 25,294 gallons of gasoline and diesel, respectively (see Attachment 3). Total petroleum fuel consumption during Project construction is estimated to be 40,280 and 107,367 gallons of gasoline and diesel, respectively.

Once operational, the proposed Project will consume energy for vehicle trips (worker commutes and clients/customers), electricity and natural gas usage, and water and wastewater conveyance. As estimated using CalEEMod, the proposed Project will consume approximately 7.5 million British thermal units (MMBTU) of natural gas and 2,351 megawatt-hours (mWh) of electricity per year. These estimates are considered to be particularly conservative, since the Project will be designed to ZNE standards, which typically involves substantially reducing, if not eliminating, natural gas and increasing the efficiency of electricity consuming building systems and equipment. The proposed Project is also estimated to result in a total of approximately 4.0 million annual vehicle miles travelled (VMT) which, based on the average fleet mix and gasoline and diesel fuel fleet efficiency in the Basin, will consume approximately 139,053 and 37,011 gallons of gasoline and diesel, respectively.[2]

[2] According to the Board of Equalization (BOE), statewide taxable sales figures indicate a total of 15,584 million gallons of gasoline fuel were sold in 2017 (CEC, 2019; CDFTA 2018). Although exact estimates are not available by County, retail fuel outlet survey data indicates Riverside County accounted for approximately 6.8% and 7.4% of total statewide gasoline and diesel sales, respectively (CEC, 2019). Based on CARB's EMFAC2017 web database, the overall average fuel economy for all

Electricity, natural gas, and gasoline fuel consumption are energy sources necessary to operate and maintain the proposed Project in a safe manner. Lighting is essential for safety and security and natural gas consumption is often needed for heating, cooking, and other temperature-controlled activities. As described previously, the proposed Project will be a ZNE facility, which will mean it will implement numerous energy efficiency measures (e.g., heat pump water heaters) and off-site its annual energy consumption through the generation of on-site renewable energy. For mobile sources, the proposed Project will utilize six, Tesla-powered trucks to deliver the modular homes and include 10 on-site EV charging stations. Finally, the modular homes sold at the proposed facility could help reduce energy consumption in new residential developments, since they do not require as much heavy-duty off-road construction equipment to develop at a site and are designed to achieve energy efficiency. For these reasons, the proposed Project will not result in the wasteful, inefficient, or unnecessary use of energy resources. This impact will be **less than significant,** and no mitigation is required.

b) Less Than Significant Impact. The proposed Project will not conflict with or obstruct a state or local plan adopted for the purposes of increasing the amount of renewable energy or energy efficiency. As discussed above, the proposed Project will meet ZNE standards (exceeding that mandated through by the State through the CalGreen Code) and will implement numerous green features, such as onsite renewable energy generation and the use of Tesla-powered trucks to deliver the modular homes. It will also result in the production, distribution, and use of homes that are more energy efficiency than that required by the CalGreen Code. In addition, the Project will be consistent with the City General Plan Policy OS-6.6 Solar Energy to…"Encourage existing or new structures to maximize solar access by promoting passive solar energy design, natural ventilation, effective use of daylight, an onsite solar generation." Therefore, the proposed Project will not conflict with or obstruct a state or local plan for renewable energy. This impact will be **less than significant,** and no mitigation is required.

<u>Mitigation Measures</u>

None required.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS				
Will the project:				
a) Directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☑	☐	☐
ii) Strong seismic ground shaking?	☐	☑	☐	☐

gasoline and diesel vehicles in the Riverside County (South Coast Air Basin) in year 2021 would be 26.4 and 9.7 miles per gallon, respectively.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
iii) Seismic-related ground failure, including liquefaction?	☐	☑	☐	☐
iv) Landslides?	☐	☑	☐	☐
b) Result in soil erosion or the loss of topsoil?	☐	☑	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that will 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?	☐	☑	☐	☐

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

Fred Aflakian, PG, CEG, Consulting Engineering Geologist. *Fault Rupture Hazard Investigation Proposed S2A Showroom and Factory Compound.* September 26, 2019.

MIG, Inc. *Phase I Cultural Resources Assessment S2A Modular Factory Project*. March 26, 2020. (See Appendix C)

Explanation of Checklist Responses

a.i) Less **than Significant Impact with Mitigation Incorporated.** According to the Fault Rupture Hazard Investigation, a northwest trending branch of the San Jacinto fault zone, the Casa Loma fault, passes through the central portion of the Project site and can be clearly seen in aerial photos trending in a southeast to northwest direction. The same scarp can be seen to the northwest of the site as well as to the southeast of the site crossing State Street. Additional surficial evidence of this fault can be observed in alluvium approximately three miles to the southeast. Evidence of fault rupture was observed up to the surface in both fault trenches. Therefore, the fault is considered to be an active fault, having undergone very recent and possibly historic surface rupture. Numerous other active faults are located within the general region, such as the Elsinore and San Andreas fault zone, but they are further from the site, so they are not considered significant when compared to the onsite branch of the San Jacinto fault zone. The General Plan acknowledges the presence of the San Jacinto Fault through the Project site and adjacent properties in Figure 6.1, *Seismic Hazards* (2030 GP).

Vertical movement along the Casa Loma fault has resulted in a prominent northeast facing fault scarp in the central portion of the site. The scarp has been modified by cultivation/farming and erosion, leaving a broader and less steep scarp than originally existed. Major movement along the fault occurs along a narrow well-defined zone. The strike of the fault measured in the bottom of the trench was approximately the same as the surface trace of the scarp. The existence of a very prominent fault scarp at one confined location together with the narrow zone of sediment rupture near the surface observed in both onsite trenches indicate fault rupture has occurred in the past over a very narrow zone. Recurring faulting usually occurs along the same plane that underwent previous fault rupture. No other disruptions or suspicious zones were observed, and the remainder of the site is considered to be relatively free of a fault rupture hazard.

The Fault Rupture Hazard Report concludes that the northwest trending, active Casa Loma fault passes through the central portion of the site and future ground rupture from faulting should be expected along this fault zone. Fault rupture is not expected through any of the remaining portion of the site as no evidence of faulting was noted during the aerial photo analysis or fault trenching. Human occupancy structures are not recommended across or within the designated fault setback zone as shown on Exhibit 5, *Fault Hazard Setback Zone*. The Fault Report also recommended shut-off valves for any wet utilities (sewer and water) crossing the designated fault setback zone. These valves will need to be placed on either side of the fault zone.

The proposed Project includes only office and warehouse buildings and no residences or similar human occupied buildings onsite. The proposed Project buildings will be subject to the seismic design criteria of the California Building Code (CBC). Adherence to these requirements will reduce the potential for structures constructed as part of the parking lot enhancements (i.e. fences, rolling gates, drainage outlets, etc.) to collapse during an earthquake, thereby minimizing injury and loss of life. Although structures may be damaged during earthquakes, adherence to seismic design requirements will minimize damage. The CBC is intended to provide minimum requirements to prevent major structural failure and loss of life. Adherence to existing regulations will reduce the risk of loss, injury, and death; impacts due to strong ground shaking. However, implementation of **Mitigation Measure GEO-1** will help further reduce potential fault rupture impacts of the Project to **less than significant** levels.

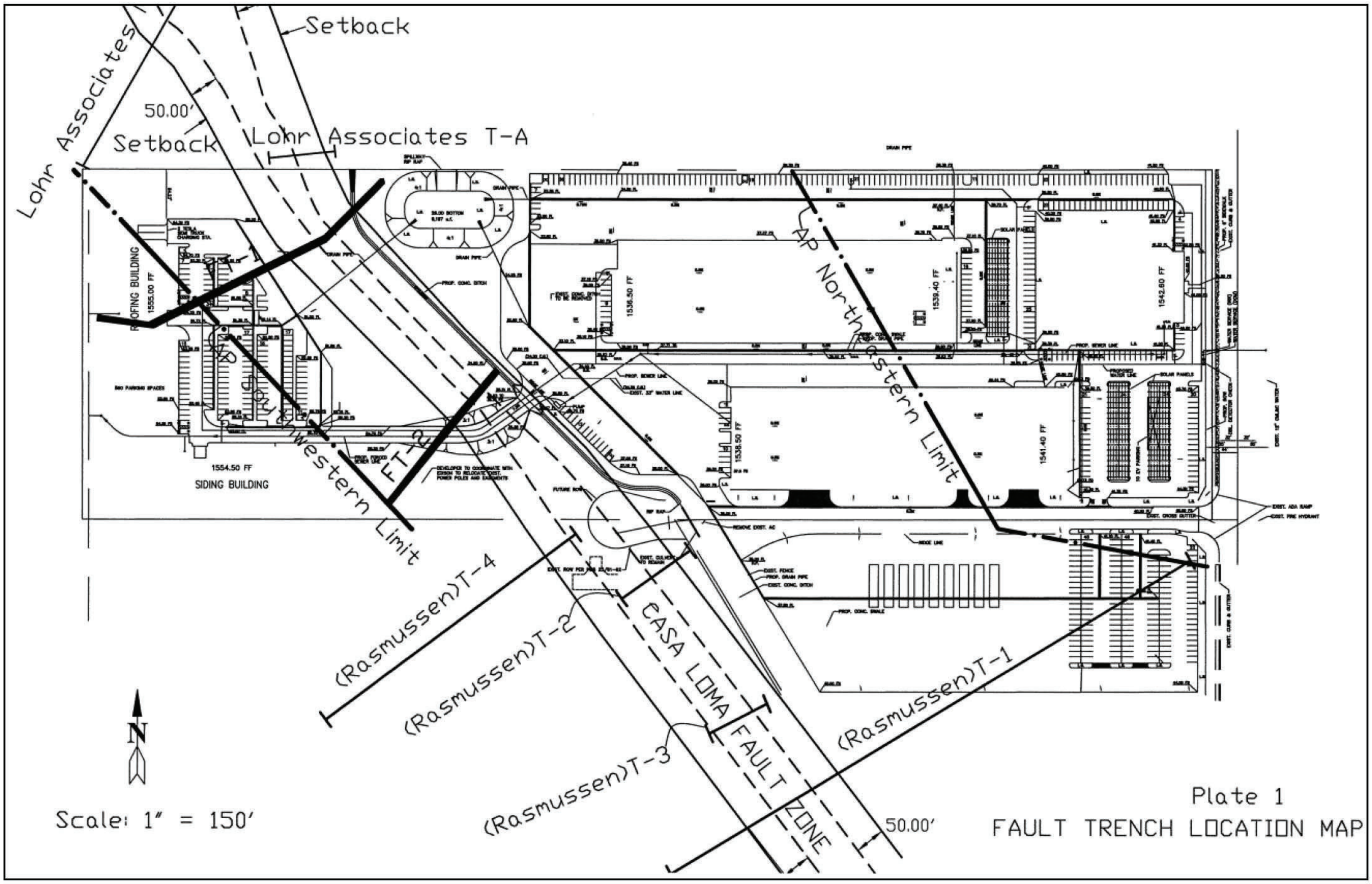


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Exhibit 5 Fault Hazard Setback Zone

S2A Modular Home Factory Project

Hemet, California

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a.ii) Less Than Significant Impact with Mitigation Incorporated. The General Plan EIR notes that the Project is located in a region with several active fault lines and it was noted that the entire area is at risk for damage caused by ground shaking and seismic activity. The seismic risk in the Project area is similar to other portions of Riverside County. With the increase of development and population allowed under the General Plan Alternatives, it was shown that the number of people and buildings exposed to seismic ground shaking will increase. As such, this was considered a significant impact in the General Plan EIR. However, each development project considered for approval by the City under the General Plan will be required to comply with seismic safety provisions of the CBC (Title 24, Part 2 of the California Code of Regulations) and have a geotechnical investigation conducted for the affected Project site. The geotechnical investigation will calculate seismic design parameters pursuant to CBC requirements and will include foundation and structural design recommendations, as needed, to reduce hazards to people and structures arising from ground shaking. In addition to adherence with CBC seismic design requirements, implementation of **Mitigation Measure GEO-1** outlined above will help reduce potential impacts related to ground shaking to **less than significant** levels.

a.iii) Less Than Significant Impact with Mitigation Incorporated. The Hemet 2030 General Plan identifies liquefaction susceptibility in the City as ranging from very low to very high. Areas of low and very low liquefaction susceptibility potential are located in pockets of the northwest, southwest, and south-central portions of the City. Areas of high and very high liquefaction susceptibility potential are located in pockets of the west, northeast, and south-central portions of the City. The remainder of the City is identified as moderate liquefaction susceptibility potential, including the proposed Project site. The proposed Project will be required to comply with seismic safety provisions of the CBC (Title 24, Part 2 of the California Code of Regulations) as demonstrated by a geotechnical constraint's investigation conducted for the Project site. A geotechnical investigation will calculate seismic design parameters pursuant to CBC requirements and will include foundation and structural design recommendations, as needed, to reduce hazards to people and structures arising from liquefaction. In addition to adherence with CBC seismic design requirements, implementation of **Mitigation Measure GEO-1** outlined above will help reduce potential impacts related to liquefaction to **less than significant** levels.

a.iv) Less Than Significant Impact with Mitigation Incorporated. The General Plan EIR notes that some of the soils that occur within the City are susceptible to collapse which may pose a hazard to new development. However, the proposed Project will be required to comply with soil limitation provisions of the CBC (Title 24, Part 2 of the California Code of Regulations) and have a geotechnical investigation conducted for the affected Project site. The geotechnical investigation will include foundation and structural design recommendations necessary to reduce hazards to people and structures arising from landslides. In addition, there are no steep or unstable slopes adjacent to the Project site which could represent a risk of landslides, although the slopes of the onsite drainage channel could be subject to limited erosion or collapse. However, adherence to CBC seismic and soil design requirements as well as **Mitigation Measure GEO-1** will help reduce potential impacts related to landslides to **less than significant** levels.

b) Less Than Significant Impact with Mitigation Incorporated. The General Plan EIR notes that some of the soils that occur within the City are susceptible to collapse which may pose a hazard to new development. However, the proposed Project will be required to comply with seismic and soil safety provisions of the CBC (Title 24, Part 2 of the California Code of Regulations) and have a geotechnical investigation conducted for the Project site. A geotechnical investigation will calculate seismic and soil design parameters pursuant to CBC requirements and will include foundation and structural design recommendations as needed, to reduce hazards to people and structures arising from soil erosion and/or loss of topsoil. Adherence to CBC seismic and soil design requirements as well as **Mitigation Measure GEO-1** will help reduce potential impacts related to landslides to **less than significant** levels.

c) Less Than Significant Impact with Mitigation Incorporated. Impacts related to liquefaction and landslides are discussed above in Sections a.iii and a.iv, above. Lateral spreading is the downslope movement of surface sediment due to liquefaction in a subsurface layer. The downslope movement is due to gravity and earthquake shaking combined. Such movement can occur on slope gradients of as little as one degree. Lateral spreading typically damages pipelines, utilities, bridges, and structures. Lateral spreading of the ground surface during a seismic activity usually occurs along the weak shear zones within a liquefiable soil layer and has been observed to generally take place toward a free face (i.e. retaining wall, slope, or channel) and to lesser extent on ground surfaces with a very gentle slope. Figure 6.1, *Seismic Hazards*, in the City's General Plan indicates the Project site and surrounding area have a moderate risk for liquefaction (2030 GP).

The proposed Project is required to be constructed in accordance with the CBC. Adherence to CBC seismic and soil design requirements as well as **Mitigation Measure GEO-1** will help reduce potential impacts related to lateral spreading to **less than significant** levels.

d) Less Than Significant Impact with Mitigation Incorporated. The CBC requires special design considerations for foundations of structures built on soils with expansion indices greater than 20. The project is required to be constructed in accordance with the CBC. Adherence to CBC seismic and soil design requirements as well as **Mitigation Measure GEO-1** will help reduce potential impacts related to unstable soils or lateral spreading to **less than significant** levels.

e) No Impact. The Project proposes to connect to the existing municipal sewer system. The proposed Project will connect to this system and will not require use of septic tanks. **No impact** will occur.

f) Less Than Significant with Mitigation Incorporated. According to the Phase I Cultural Resources Assessment, the results of the paleontological resources records search through NHMLAC indicate that no vertebrate fossil localities from the NHMLAC records have been previously recorded within the Project site or within a one-mile radius. Moreover, no paleontological resources were identified by MIG during the pedestrian survey. In addition, the literature review, and the search at the NHMLAC indicate that the Project site is situated upon younger Quaternary Alluvium, derived primarily as alluvial fan deposits from the Santa Rosa Hills to the southeast. These deposits are unlikely to contain significant fossil vertebrates in the uppermost layers, but finer-grained older Quaternary deposits that do contain significant vertebrate fossils may be underlined by older Quaternary deposits that extend into the Study Area at unknown depths. Consequently, the Project site has moderately low sensitivity level to encounter subsurface paleontological fossils or unique geological features during Project implementation. As a result, Mitigation Measures GEO-2 through GEO-5 have been incorporated to reduce potentially significant impacts to previously undiscovered paleontological resources or unique geological features that may be accidentally encountered during Project implementation to a less than significant level. Mitigation Measure GEO-2 requires the applicant to conduct paleontological sensitivity training for construction personnel. Mitigation Measure GEO-3 requires the applicant to retain a qualified paleontologist to conduct periodic paleontological resources spot checks during grading and earth-moving activities in older Quaternary deposits. Mitigation Measure GEO-4 requires the developer to cease ground-disturbing activities and implement a treatment plan if paleontological resources are encountered. Mitigation Measure GEO-5 requires preparation of a final report upon completion of monitoring services. With implementation of **Mitigation Measures GEO-2 through GEO-5**, impacts will be **less than significant**.

<u>Mitigation Measures</u>

GEO-1 **Seismic Building Code Compliance.** Prior to the issuance of any grading or building permits, the applicant shall demonstrate, and the applicable building plans shall show, all planned improvements are consistent in terms of location and design with the seismic design criteria of the California Building Code (CBC) including structures constructed as part of the parking lot enhancements (i.e. fences, rolling gates, drainage outlets, etc.) to prevent collapse during an earthquake. The Project must also be consistent with the seismic limitations outlined in the Fault Rupture Hazard Report and any subsequent geotechnical or soils constraints reports prepared by the applicant and approved by the City. The Project shall also install shut-off valves for any wet utilities (e.g., sewer and water) that cross the designated fault setback zone. These valves shall be placed on either side of the fault zone. This measure shall be implemented to the satisfaction of the City Engineer in consultation with the County Geologist, if necessary, to ensure public and worker health and safety are adequately protected against loss of life or significant property damage during operation of the Project.

GEO-2 **Paleontological Training for Construction.** The applicant shall retain a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology and shall conduct a paleontological sensitivity training for construction personnel prior to commencement of excavation activities. The training will include a handout and will focus on how to identify paleontological resources that may be encountered during earthmoving activities and the procedures to be followed in such an event, the duties of paleontological monitors, notification and other procedures to follow upon discovery of resources, and the general steps a qualified professional paleontologist will follow in conducting a salvage investigation if one is necessary.

GEO-3 **Paleontological Monitoring.** The applicant shall retain a professional paleontologist who meets the qualifications set forth by the Society of Vertebrate Paleontology and shall conduct periodic Paleontological Spot Checks beginning at depths below six feet to determine if construction excavations have extended into older Quaternary deposits. After the initial paleontological spot check, further periodic checks will be conducted at the discretion of the qualified paleontologist. If the qualified paleontologist determines that construction excavations have extended into the older Quaternary deposits, construction monitoring for paleontological resources will be required. The applicant shall retain a qualified paleontological monitor, who will work under the guidance and direction of a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology. The paleontological monitor shall be present during all construction excavations (e.g., grading, trenching, or clearing/grubbing) into the older Pleistocene alluvial deposits. Multiple earth-moving construction activities may require multiple paleontological monitors. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known paleontological resources and/or unique geological features, the materials being excavated (native versus artificial fill soils), and the depth of excavation, and if found, the abundance and type of paleontological resources and/or unique geological features encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the qualified professional paleontologist.

GEO-4 **Paleontological Resources Treatment Plan**. If paleontological resources and or unique geological features are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 50 feet shall be established around the find where construction activities shall not be allowed to continue until an appropriate paleontological treatment plan has been approved by the applicant and the City. Work shall be allowed to continue outside of the buffer area. The applicant and City shall coordinate with a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology, to develop an appropriate treatment plan for the resources. Treatment may include implementation of paleontological salvage excavations to remove the resource along with subsequent laboratory processing and analysis or preservation in place. At the paleontologist's discretion and to reduce construction delay, the grading and excavation contractor shall assist in removing rock samples for initial processing.

GEO-5 **Paleo Completion Report**. Upon completion of the above activities, the professional paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted to the applicant, the City, the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures.

VIII. GREENHOUSE GAS EMISSIONS	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Will the project:				
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?	☐	☐	☑	☐

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

MIG. *Air Quality, Greenhouse Gas, and Energy Analyses for S2A Modular Factory Project.* June 19, 2020.

Explanation of Checklist Responses

a) Less Than Significant Impact. An assessment of greenhouse gas emissions was prepared for the Project (MIG 2020). Gases that trap heat in the atmosphere and affect regulation of the Earth's temperature are known as GHGs. GHG that contribute to climate change are a different type of pollutant than criteria or hazardous air pollutants because climate change is global in scale, both in terms of causes and effects. Some GHG are emitted to the atmosphere naturally by biological and geological processes such as evaporation (water vapor), aerobic respiration (carbon dioxide), and off-gassing from low oxygen environments such as swamps or exposed permafrost (methane); however, GHG emissions from human activities such as fuel combustion (e.g., carbon dioxide) and refrigerants use (e.g., hydrofluorocarbons) significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change. The 1997 United Nations' Kyoto Protocol international treaty set targets for reductions in emissions of four specific GHGs – carbon dioxide, methane, nitrous oxide, and sulfur hexafluoride – and two groups of gases – hydrofluorocarbons and perfluorocarbons. These GHG are the primary GHG emitted into the atmosphere by human activities. The six most common GHG's are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride, hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

GHG emissions from human activities contribute to overall GHG concentrations in the atmosphere and the corresponding effects of global climate change (e.g., rising temperatures, increased severe weather events such as drought and flooding). GHGs can remain in the atmosphere long after they are emitted. The potential for a GHG to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHGs by their GWP determines their carbon dioxide equivalent (CO_2e), which enables a project's combined global warming potential to be expressed in terms of mass CO_2 emissions (referred to as CO_2 equivalents, or CO_2e).

GHG Thresholds

In order to provide guidance to local lead agencies on determining the significance of GHG emissions in their CEQA documents, the SCAQMD convened the first GHG Significance Threshold Working Group (Working Group) meeting on April 30, 2008. To date, the Working Group has convened a total of 15 times, with the last meeting taking place on September 28, 2010. Based on the last Working Group meeting, the SCAQMD identified an interim, tiered approach for evaluating GHG emissions intent on capturing 90 percent of development projects where the SCAQMD is not the lead agency. The following describes the basic structure of the SCAQMD's tiered, interim GHG significance thresholds:

Tier 1 consists of evaluating whether or not the project qualifies for applicable CEQA exemptions.

Tier 2 consists of determining whether or not a project is consistent with a greenhouse gas reduction plan. If a project is consistent with a greenhouse gas reduction plan, it will not have a significant impact.

Tier 3 consists of using screening values at the discretion of the Lead Agency; however, the Lead Agency should be consistent for all projects within its jurisdiction. The following thresholds were proposed for consideration:

- 3,000 $MTCO_2e$ per year for all land use types; or
- 3,500 $MTCO_2e$ per year for residential; 1,400 $MTCO_2e$ per year for commercial; 3,000 $MTCO_2e$ per year for mixed use projects.

Tier 4 has three options for projects that exceed the screening values identified in Tier 3:

- Option 1: Reduce emissions from business-as-usual by a certain percentage (currently undefined); or
- Option 2: Early implementation of applicable AB 32 Scoping Measures; or
- Option 3: For plan-level analyses, analyze a project's emissions against an efficiency value of 6.6 $MTCO_2e$/year/service population by 2020 and 4.1 $MTCO_2e$/year/service population by 2035. For project-level analyses, analyze a project's emissions against an efficiency value of 4.8 and 3.0 $MTCO_2e$/year/service population for the 2020 and 2035 calendar years, respectively.

This analysis conservatively uses the SCAQMD's interim Tier 3 GHG threshold to evaluate the proposed Project's GHG emissions levels.

Project GHG Emissions

The proposed Project will generate GHG emission from both short-term construction and long-term operational activities. Construction activities will generate GHG emissions primarily from equipment fuel combustion as well as worker, vendor, and haul trips to and from the Project site during demolition, site preparation, grading, building construction, paving, and architectural coating activities. Construction activities will cease to emit GHG upon completion. The SCAQMD recommends amortizing construction GHG emissions over a 30-year period and including with operational emissions estimates. This normalizes construction emissions so that they can be grouped with operational emissions and compared to appropriate thresholds, plans, etc. Once operational, the proposed Project will generate GHG emissions from area, mobile, water/wastewater, and solid waste sources. The proposed Project's construction and operational emissions were estimated CalEEMod, V. 2016.3.2, using the same default assumptions and Project-specific variables applied to the air quality emissions estimates.[3]

[3] CalEEMod does not estimate N_2O emissions, however, in 2016, statewide CO_2 and N_2O emissions for the on-road transportation sector (light duty gasoline vehicles) were 115.4 and 0.005 million metric tons, respectively (N_2O emissions, therefore, would be equal to 0.004% of CO_2 emissions for this sector). N_2O emissions, therefore, are not anticipated to increase the proposed Project's GHG emissions estimates by more than 1% overall and would not materially change this GHG evaluation.

The proposed Project's total GHG emissions are shown in Table 5, *Project Greenhouse Gas Emissions*. As shown in Table 5, the proposed Project's potential increase in GHG emissions will be below the SCAQMD's recommended GHG emissions thresholds.

Table 5: **Project Greenhouse Gas Emissions**

GHG Emissions Source	GHG Emissions (Metric Tons Per Year)
Area	0.0[(A)]
Energy	0.0[(B)]
Mobile	1,834.7
Solid Waste	144.5
Water/Wastewater	296.0
Construction[(B)]	50.3
Total[(C)]	2,325.5
SCAQMD Tier 3 Screening Threshold	3,000
SCAQMD Tier 3 Threshold Exceeded?	*No*

Source: Table 6: Project Greenhouse Gas Emissions, MIG 2020.

Notes
(A) 0.0 does not mean emissions are zero but rather emissions are greater than 0.00, but less than 0.1.
(B) Construction emissions from Phases 1 and 2 have been summed and averaged over a 30-year assumed project lifetime.
(C) Totals may not equal due to rounding.

Although Table 5 shows the Project will not exceed the SCAQMD's recommended GHG emissions thresholds, actual GHG emissions from this facility will likely be lower than indicated in Table 5 for the following reasons. First, the GHG emissions imbedded in CalEEMod for water/wastewater transport and treatment are based on Southern California Edison's GHG intensity values from 2012. Due to statewide mandates to increase the amount of electricity supplied to consumers from renewable resources, the GHG emissions associated with this source will be lower. Second, the mobile source emissions estimate does not take into account that the Project will utilize Tesla-powered trucks to deliver the modular homes to their final destination. The use of all-electric trucks fueled (i.e., charged) at a "Zero Net Energy" (ZNE) facility in lieu of diesel-powered trucks will reduce the estimated GHG emissions from this source. However, there was no estimate of the use of these trucks available so it was assumed the delivery trucks will be powered by fossil fuel as a "worst case" assumption. Finally, the proposed Project will have the added environmental benefit of furthering the implementation of technology that is necessary for the state to meet future GHG emission reduction goals. The modular homes produced at the facility will be built around Tesla Powerwall Technology, which will make each unit electrically self-sustainable. Each structure, once developed, will be connected to the electrical grid as a backup power source, but will otherwise rely on renewable energy generated onsite. In addition, not only will the modular homes be more energy efficient than homes of standard construction, they will also be produced in a facility that is ZNE, thereby reducing the upstream GHG intensity of development as well. The proposed Project will not generate GHG emissions that exceed SCAQMD CEQA thresholds and will support future GHG-emission reduction goals at the state level. This impact will be less than significant, and no mitigation is required.

b) Less Than Significant Impact. The proposed Project will not conflict with CARB's Scoping Plan or the Southern California Association of Governments (SCAG) previous 2016-2035 RTP/SCS or recently updated 2020-2045 RTP/SCS. Nearly all the specific measures identified in the 2017 Climate Change Scoping Plan will be implemented at the state level, with CARB and/or another state or regional agency having the primary responsibility for achieving required GHG reductions. The proposed Project, therefore, will not directly conflict with any of the specific measure identified in the 2017 Climate Change Scoping Plan. Similarly, the proposed Project will not conflict with the SCAG 2020 RTP/SCS, because it is within the growth assumptions of the RTP/SCS, will utilize zero-emission Tesla-trucks to deliver the modular homes, and will provide on-site electric vehicle (EV) charging stations to help facilitate and encourage employees and customers/clients to buy EVs, which will help reduce per capita GHG emissions associated with automobile use. The proposed Project will also facilitate the construction, distribution, and

use of energy efficient homes. This impact will be **less than significant,** and no mitigation is required.
Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS				
Will the project:				
a) Create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☑	☐
b) Create a 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 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, will 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, will the project result in a safety hazard or excessive noise for people residing or working in the Project site?	☐	☐	☐	☑
f) Impair implementation of 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?	☐	☐	☐	☑

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Explanation of Checklist Responses

a) Less Than Significant Impact. According to the Hemet 2030 General Plan, the California Health and Safety Code defines a hazardous material as any material that, based on quantity, concentration, and physical or chemical characteristics, poses a significant potential hazard to public health and safety or to the environment. The manufacturing, use, and transport of hazardous materials are considered potential hazards to human activity. Commercial and industrial businesses located in Hemet and nearby communities use hazardous materials, including such businesses as dry cleaners, film processors, auto service providers, landscape contractors, and paint shops. Larger businesses, primarily in industrial areas, can generate, use, and/ or store large quantities of hazardous products.

The current regulatory environment provides a high level of protection from the hazardous materials manufactured, transported to businesses, and stored within the City. Federal, state, and county agencies enforce regulations for hazardous waste generators and users. Residents also use a range of household hazardous products. To address household hazardous wastes, the City cooperates with the Riverside County Sanitation District to sponsor programs that raise awareness of proper use, storage, and disposal of household hazardous wastes. The Hemet Fire Department is the first responder for hazardous materials incidents within the City. In 1996, the Hemet Fire Department established a Hazardous Materials Response Team. This team handles all types of hazardous materials incidents.

There are no hazardous waste landfills or collection centers in the City or Planning Area. Hazardous materials pass through the Hemet area on local streets or railways. The City has no direct authority to regulate their transport. The Riverside County Department of Environmental Health (DEH) is responsible for tracking hazardous materials handlers to ensure appropriate reporting and compliance. DEH regulates facilities that handle and store onsite specified types and quantities of hazardous and acutely/ extremely hazardous materials through permitting, routine facility inspections, and development of detailed site plans indicating where hazardous materials are stored.

Construction of the proposed Project will require the use and transport of hazardous materials such as asphalt, paints, and other solvents. Construction activities could also produce hazardous wastes associated with the use of such products. Construction of the proposed Project requires ordinary construction activities and will not require a substantial or uncommon amount of hazardous materials to complete. All hazardous materials are required to be utilized and transported in accordance with their labeling pursuant to federal and state law. Routine construction practices include good housekeeping measures to prevent/contain/clean-up spills and contamination from fuels, solvents, concrete wastes, and other waste materials.

According to the U.S. Environmental Protection Agency (EPA), Similarly, operation of the proposed Project will require the use and storage of common hazardous materials associated with light industrial uses. Use of common commercial/light industrial hazardous materials and their disposal does not present a substantial health risk to the community. The proposed Project will not place housing near any hazardous materials facilities. The routine use, transport, or disposal of hazardous materials is primarily associated with heavy industrial uses which require such materials for manufacturing operations or produce hazardous wastes as by-products of production applications. The proposed Project does not propose or facilitate any activity involving significant use, routine transport, or disposal of hazardous substances. The proposed Project will be required to comply with the Riverside County Area Plan addressing the proper use, storage, collection, and disposal of hazardous materials. Therefore, with adherence to existing regulations, the proposed Project will have a less than significant impact.

With regard to Project operation, widely used hazardous materials typically include paints, solvents, cleaners, and pesticides. Operation of the proposed modular factory will involve the use of cleaning solutions for daily operation and paints for routine maintenance and re-coating of structures. The remnants of these and other products are disposed of as prescribed by the City and Fire Department. Through compliance with existing regulations, use of common light industrial hazardous materials and their disposal does not present a substantial health risk to the community. Impacts associated with the routine transport, use, or disposal of hazardous materials or wastes will be less than significant.

Compliance with and enforcement of existing federal, state, and local laws and regulations concerning the routine transport, use, or disposal of hazardous materials, supported by implementation of Draft General Plan policies and programs will reduce impacts to a **less than significant** level and no mitigation measures are required.

b) Less Than Significant Impact. According to the State Water Resources Control Board, there are no open cases of leaking underground storage tanks (LUST) within one-quarter mile of the Project site. There are four closed cases of LUST within one-quarter mile of the Project site: Superior Ready Mix (T0606500522), Hemet Ready Mix (T0606500605), Caltrans Hemet Maintenance (T0606500467), and Beaumont Concrete Company (T0606400479). The Superior Ready Mix site and the Hemet Ready Mix site are located immediately to the north of the Project site and both cases were closed in 2003. The Caltrans Hemet Maintenance site is located approximately 0.20 miles east of the Project site on South Juanita Street. This cased was closed in 1997. The Beaumont Concrete Company site is located approximately 0.25 miles south of the Project site on State Street. This case has been closed since 2003. Therefore, there will be a **less than significant** impact related to the release of hazardous materials into the environment as a result of development of the proposed Project.

Construction of the Project will require the use and transport of hazardous materials such as asphalt, paints, and other solvents. Construction activities could also produce hazardous wastes associated with the use of such products. Construction of the proposed Project will require ordinary construction activities and will not require a substantial or uncommon amount of hazardous materials to complete. All hazardous materials are required to be utilized and transported in accordance with their labeling pursuant to federal and state law. Routine construction practices include good housekeeping measures to prevent/contain/clean-up spills and contamination from fuels, solvents, concrete wastes, and other waste materials. Impacts will be **less than significant**.

According to the SCAQMD, activities associated with demolition of buildings and structures may pose a hazard regarding asbestos containing materials (ACM) and lead-based paint (LBP). ACM were used on a widespread basis in building construction prior to and into the 1980s. However, there are no buildings or structures on site that will be demolished as part of Project development, therefore, it is assumed that ACM is not present on the Project site. According to the California Department of Toxic Substances, exposure of construction workers to LBP during demolition activities is also of concern, similar to exposure to asbestos. Exposure of surrounding land uses to lead from demolition activities is generally not a concern because demolition activities do not result in appreciable emissions of lead. The primary emitters of lead are industrial processes. Improper disposal of lead-based paint could contaminate soil and subsurface groundwater in and under landfills not properly equipped to handle hazardous levels of this material. There are no building or structures, therefore, it is assumed that LBP is not present on the Project site.

With regard to operation, the proposed modular home factory will not involve the use of hazardous materials or generate hazardous waste that could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Project operation will involve the use of paints, adhesives, and chemicals used in typical manufacturing operations, and with compliance with existing regulations, will not pose a significant risk to the environment or humans. Impacts will be **less than significant**.

c) Less Than Significant Impact. The nearest school to the Project site is Edward Hyatt Elementary School, located approximately 1.1 miles to the northeast. Operation of the Project will not generate any hazardous emissions. Storage, handling, production, or disposal of acutely hazardous materials associated with future operation of the modular home factory will be subject to existing regulations. Impacts will be **less than significant** with implementation of existing regulations.

d) No Impact. The Project is not located on a site listed on the state *Cortese List*, a compilation of various sites throughout the state that have been compromised due to soil or groundwater contamination from past uses. Based upon review of the *Cortese List*, the Project site is not:

- listed as a hazardous waste and substance site by the Department of Toxic Substances Control (DTSC);
- listed as a leaking underground storage tank (LUFT) site by the State Water Resources Control Board (SWRCB);
- listed as a hazardous solid waste disposal site by the SWRCB;
- currently subject to a Cease and Desist Order (CDO) or a Cleanup and Abatement Order (CAO) as issued by the SWRCB; or
- developed with a hazardous waste facility subject to corrective action by the DTSC.

Therefore, there will be **no impact** pursuant to Government Code Section 65962.5 (Cortese List sites).

e) No Impact. The Project is not located within an airport land use plan and there are no public airports, private airstrips, or heliports within two miles of the Project site. The nearest airport is Hemet-Ryan Airport, located approximately 3.6 miles to the southwest. **No impact** related to airport operations will occur.

f) Less Than Significant Impact. Per state Fire and Building Codes, sufficient space will have to be provided around the buildings for emergency personnel and equipment access and emergency evacuation. All Project elements, including landscaping, will be sited with sufficient clearance from proposed structures so as not to interfere with emergency access to and evacuation from the facility. The modular home factory will be required to comply with the California Fire Code as adopted by the Hemet Municipal Code (Chapter 10.14-75). The Project site plan includes one ingress/egress access point via a Crows Nest Place. The roadway will be improved, and the Project driveway will be constructed to California Fire Code specifications and will allow emergency access and evacuation from the site as well as existing mobile homes served by Crows Nest Place. The Project will not impair implementation of or physically interfere with an adopted emergency response plan or evacuation plan because no permanent public street or lane closures are proposed. In addition, the site is located on the west side of State Street which provides both local and regional access to and from the site. Construction work in the street associated with the Project will be limited to lateral utility connections and roadway improvements with nominal potential traffic diversion. Project impacts will be **less than significant,** and no mitigation is required.

g) No Impact. According to the Hemet 2030 General Plan, the Project site is not located within a fire hazard zone, as identified on the latest Fire Hazard Severity Zone (FHSZ) maps prepared by the California Department of Forestry and Fire Protection (CALFIRE). There are no wildland conditions in the urbanized area where the Project site is located. **No impact** will occur.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY				
Will the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☑	☐	☐
b) Decrease groundwater supplies or interfere with groundwater management of the basin to the degree the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☑
c) Substantially alter the drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which will	☐	☑	☐	☐
(i) result in substantial erosion or silt in a manner which will result in erosion, siltation, or flooding on- or off-site?	☐	☑	☐	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which will result in flooding on-or offsite;	☐	☑	☐	☐
(iii) create or contribute runoff water which will exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or	☐	☑	☐	☐
(iv) impede or redirect flood flows?	☐	☑	☐	☐

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☑	☐	☐

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Eastern Municipal Water District (EMWD). Hemet/San Jacinto Groundwater Management Area 2018 Annual Report. EMWD January 1, 2018.

Federal Emergency Management Agency (FEMA). Flood Insurance Rate Map (FIRM) Panel 06065C1488H dated April 19, 2017. (FEMA website https://www.fema.gov/flood-zones)

Project site plan.

Explanation of Checklist Responses

a) Less Than Significant Impact with Mitigation Incorporated. The federal Clean Water Act (CWA) establishes the framework for regulating municipal storm water discharges (construction and operational impacts) via the National Pollutant Discharge Elimination System (NPDES) program. A project will have an impact on surface water quality if discharges associated with the Project will create pollution, contamination, or nuisance as defined in Water Code Section 13050, or that cause regulatory standards to be violated as defined in the applicable NPDES storm water permit or Water Quality Control Plan for a receiving water body. For the purpose of this specific issue, a significant impact could occur if the Project will discharge water that does not meet the quality standards of the agencies which regulate surface water quality and water discharge into storm water drainage systems. Significant impacts could also occur if the Project does not comply with all applicable regulations with regards to surface water quality as governed by the State Water Resources Control Board (SWRCB). These regulations include preparation of a Storm Water Pollution Prevention Plan (SWPPP) to reduce potential construction water quality impacts, as well as a Water Quality Management Plan (WQMP) to reduce potential post-construction water quality impacts. All new development in the City of Hemet is required to comply with provisions of the NPDES program, including Waste Discharge

Requirements (WDR), and the City's Municipal Separate Storm Sewer System Permit (MS4) as enforced by the Santa Ana Regional Water Quality Board (SARWQCB)(SARWQCB 2010).

The Project site is situated in the San Jacinto River watershed which drains northwest then west across the Hemet Valley and eventually into the Santa Ana River and on to the Pacific Ocean. An unimproved drainage channel crosses the center of the Project site from southeast to northwest. This drainage appears to be a remnant of area-wide drainage from the "Little Lake" area in the Santa Rosa Hills approximately four miles southeast of the site. Beyond the Project site this drainage daylights and downstream runoff is collected by other unimproved channels or simply sheet flows to the northwest and west. The onsite drainage channel does not connect to any larger natural drainages, improved storm drain channels, or water bodies so potential water-quality impacts of the Project are localized and will not affect beneficial uses of any impaired water bodies identified by the U.S. Environmental Protection Agency under Section 303(b) of the Clean Water Act.

Project Improvements

To protect general water quality for downstream resources, the Project has several improvements that will eliminate or reduce the potential for pollutants in any runoff from the Project site. The Project site plan indicates a detention/water quality basin with an area of 9,187 square feet (0.2-acre) and a depth of seven feet will be constructed in the north-central portion of the site. This basin will collect and treat runoff water as well as to detain runoff from the site during anticipated storm events. The basin also has a spillway on its north side to allow runoff from the basin under emergency conditions. Three drain lines from the east, southeast, and west portions of the site drain will drain into this basin.

The Project will also have a shallow improved swale constructed along the east side of the onsite drainage channel to prevent sheet flow runoff from the portion of the Project east of the channel to flow into the channel without treatment by the water quality basin.

The site is surrounded by a mixture of land uses including industrial, commercial, residential, and vacant land. The site is currently vacant undeveloped land with a 100 percent (100%) pervious earthen surface. Drainage runoff currently sheet flows from the "outer" portions of the site toward the onsite drainage channel which conveys them offsite to the north. The proposed drainage pattern for this site will be generally the same as the existing/historical drainage pattern.

The clearing and grading phases of Project site construction will disturb surface soils along with brush and vegetation potentially resulting in erosion and sedimentation. If left exposed and with no vegetative cover, the Project site's bare soil will be subject to wind and water erosion which could flow directly into the onsite drainage channel. Since the Project involves more than one acre of ground disturbance, it is subject to NPDES permit requirements for the preparation and implementation of a project-specific Storm Water Pollution Prevention Plan (SWPPP). Adherence to NPDES permit requirements and the measures established in the SWPPP are routine actions conditioned by the City and will ensure applicable water quality standards are appropriately maintained during construction of the proposed Project.

The City's development review procedures also require preparation of a Hydrology Study and a Water Quality Management Plan to demonstrate the new onsite basin will: detain sufficient storm water runoff to prevent an increase in post-development runoff from the site; and treat onsite runoff to remove urban pollutants that might otherwise cause water quality impacts to the groundwater through onsite percolation or downstream via surface runoff.
With the use of a water quality/detention basin and low-impact development features as required by the City, the Project will produce no runoff to off-site parcels and therefore no downstream flooding will occur due to the development this Project. However, a hydrology study must demonstrate that the proposed basin and improvements will not increase the volume or velocity of surface flows to the detriment of downstream landowners and/or facilities.

Best Management Practices

In addition to the proposed improvements, the Project will implement a number of Low Impact Development (LID) and Best Management Practices (BMPs) to assure that Project runoff will have no significant water quality impacts as outlined in Table 6, *General Best Management Practices*. These general measures will be incorporated as appropriate into the Water Quality Management Plan for the Project.

Table 6: General Best Management Practices

Pollutant Source	Structural Source Control BMPs	Operational Source Control BMPs
Onsite storm drains	Private drains will show markers if possible.	Maintain markers and provide information to maintenance personnel.
Trash Storage Areas	Show areas that are covered and paved and will prevent runoff.	Inspect trash areas regularly and prevent spills.
Vehicle and Equipment Cleaning Areas	Washing of vehicles will be performed indoors.	Wash water from vehicle and equipment washing operations shall not be discharged to the storm drain system.
Vehicle and Equipment Maintenance/Repair Areas	No vehicle repair or maintenance will be done outdoors. There are no floor drains. There are no tanks, containers or sinks to be used for parts cleaning or rinsing.	The following restrictions apply to use this site: • No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinse water from parts cleaning into storm drains. • No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately. • No person shall leave unattended drip parts or other open containers containing vehicle fluid unless such containers are in use or in an area of secondary containment.
Outdoor Storage Areas	Maintain a detailed description of materials that are stored and provide structural features to prevent pollutants from entering storm drains.	
Material Storage Areas	Maintain a detailed description of materials that are stored and provide structural features to prevent pollutants from entering storm drains.	
Material Storage Areas (cont'd)	Where appropriate, reference documentation of compliance with the requirements of Hazardous Materials Programs for: • Hazardous Waste Generation • Hazardous Materials Release Response and Inventory • California Accidental Release (CalARP) • Aboveground Storage Tank • Uniform Fire Code Article 80 Section 103(b) & (c) 1991	
Fire Sprinkler Test/ Maintenance Water	A means will be provided to drain the fire sprinkler test water to the sanitary water.	
Plazas, Sidewalks and Parking Lots		Sweep walkways and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect wash water containing any cleaning agent or degreaser and discharge to the sanitary sewer, not to a storm drain.

Source: CSQA 2015.

Summary of Impacts

A basin will be constructed in the north-central portion of the site with detention volume sufficient to protect downstream properties from post-development runoff from the proposed Project site. This basin will also provide biofiltration/passive treatment and infiltration to protect local groundwater and downstream surface water quality. Proper engineering design and construction in conformance with the requirements of the City will be required to meet the intent of the NPDES Permit for Riverside County and the City's MS4 Permit within the San Jacinto River Watershed (MS4 permit). Without verification of the basin design, potential water quality impacts are potentially significant and require mitigation. Mitigation Measure HWQ-1 requires preparation and approval of a Project Hydrology Study before grading to verify basin requirements in terms of water quality and runoff detention. In addition, Mitigation Measure HWQ-2 requires preparation of a Storm Water Pollution Prevention Plan to protect water quality during construction and Mitigation Measure HWQ-3 requires preparation of a Water Quality Management Plan to protect water quality during Project operation. With implementation of **Mitigation Measures HWQ-1 through HWQ-3**, potential impacts related to water quality standards or waste discharge requirements over the short- and long-term will be reduced to **less than significant** levels.

b) Less Than Significant Impact with Mitigation Incorporated. Managing the watershed and stormwater to maximize groundwater recharge is imperative to ensuring an adequate and affordable source of water in the future and to meeting habitat hydration needs in biologically sensitive areas of the City (GP 2030 p. 7-22). To address these issues, the Cities of Hemet and San Jacinto, The Eastern Municipal Water District (EMWD), Lake Hemet Municipal Water District, private pumpers (agricultural users), and the Soboba Tribe developed a groundwater management plan for the Hemet–San Jacinto Basin in 2012.

The Hemet/San Jacinto Groundwater Management Area (GMA) is managed by the Hemet-San Jacinto Watermaster (Watermaster) based on the Stipulated Judgment entered on April 18, 2013, in Riverside County Superior Court (Case No. RIC 1207274). The Management Area is located in the western portion of Riverside County within the San Jacinto River Watershed and includes the Cities of San Jacinto and Hemet, as well as the unincorporated areas of Winchester, Valle Vista, and Cactus Valley. The GMA encompasses approximately 90 square miles and has been divided into four groundwater management zones. The Watermaster is responsible for estimated water supplies and projected demands for the GMA, evaluating data compiled from the Groundwater Monitoring Programs, and managing the groundwater recharge program and other activities to protect the local groundwater resources (EMWD 2018).

The Project site is currently vacant and much of the runoff that falls on the site either percolates directly into the ground or flows into the onsite drainage channel and then percolates into the ground. Some of this runoff eventually reaches the local groundwater basin. Development of the proposed Project will construct impervious surfaces on approximately half of the site which will substantially reduce the natural infiltration that presently occurs onsite. As discussed previously in Section 10.a, a water quality/detention basin has been designed in the north-central portion of the site that will capture storm water runoff as well as retain increased runoff in the post-development condition of the Project site. With proper design, post-development storm water runoff volume or time of concentration will not exceed pre-development conditions (see Mitigation Measure HWQ-1). This basin will allow continued percolation of onsite runoff into the ground and eventually back into the local groundwater basin. In addition, the onsite drainage channel will remain in its unimproved condition which will help maintain natural infiltration in this area.

No component of the proposed Project will substantially decrease groundwater supplies. The Project design, as depicted on the Project plans (specifically the water quality/detention basin), and subsequent Project-specific WQMP, will allow for water to percolate back into the ground and allow for groundwater recharge. This will offset any impacts from the other non-pervious elements contained in the proposed Project. This standard condition is applicable to all development, so it is not considered mitigation for CEQA implementation purposes.

Based on available information, implementation of the proposed Project will not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. Any impacts will be **less than significant,** and no mitigation is required.

c.i) Less Than Significant Impact with Mitigation Incorporated. Please reference the discussion set forth in Section X.a above, relative to the Project design and the existing drainage pattern of the site and the area. The Project site is located within FEMA Flood Zone X which means "an area determined to be outside the 500-year flood and protected by levee from 100-year flood High Risk Areas" (FEMA FIRM Panel 06065C1488H dated April 19, 2017)(FEMA website https://www.fema.gov/flood-zones). In addition, Figure 6,2, *Natural Flood Hazards*, in the General Plan indicate the site is not within a 100-year or 500-year flood zone (2030 GP).

The increase in overall runoff volume from the developed site will be mitigated by the water quality basin which will also act as a detention basin during times of peak flow, so development of this site will not increase offsite runoff in the post-development condition compared to existing conditions (see MM HWQ-1). Therefore, the proposed Project will not substantially alter the historical and existing drainage pattern of the area.

Furthermore, implementation of a Water Quality Management Plan will ensure that the post-Project development of the site, which substantially increases the impervious area of the Project site, does not cause or result in substantial on- or off-site erosion or siltation as outlined in Section X.a above.

Mitigation Measure HWQ-1 requires preparation and approval of a Project Hydrology Study before grading to verify basin requirements in terms of water quality and runoff detention. In addition, Mitigation Measure HWQ-2 requires preparation of a Storm Water Pollution Prevention Plan to protect water quality during construction and Mitigation Measure HWQ-3 requires preparation of a Water Quality Management Plan to protect water quality during Project operation. With implementation of **Mitigation Measures HWQ-1 through HWQ-3**, potential impacts related to erosion, siltation, or flooding on- or off-site over the short- and long-term will be reduced to **less than significant** levels.

c.ii) Less Than Significant Impact with Mitigation Incorporated. As discussed in the previous Section 10.a, to manage the substantial increase in impervious area associated with the proposed Project development plan, a water quality basin that will also provide storm water retention has been designed in the north-central portion of the site. This basin will be designed to retain the expected post-development runoff during anticipated storm events. Mitigation Measure HWQ-1 requires preparation and approval of a Project Hydrology Study before grading to verify basin requirements in terms of runoff detention which will assure the Project will not substantially increase the rate or amount of surface runoff in a manner which will result in flooding on- or offsite. With implementation of **Mitigation Measure HWQ-1** (hydrology study), Project impacts will be **less than significant**.

c.iii) Less Than Significant Impact with Mitigation Incorporated. The Project site will convey onsite flows to a basin where the flows will be treated for water quality purposes as well as retain increased runoff. As discussed in Section X.a above, the design and implementation of the basin will result in less runoff from the Project site than currently exists in the undeveloped condition. Mitigation Measure HWQ-1 requires preparation and approval of a Project Hydrology Study before grading to verify basin requirements in terms of runoff detention which will assure the Project will not substantially increase the rate or amount of surface runoff in a manner which will result in flooding on- or offsite. In addition, Mitigation Measure HWQ-2 requires preparation of a Storm Water Pollution Prevention Plan to protect water quality during construction and Mitigation Measure HWQ-3 requires preparation of a Water Quality Management Plan to protect water quality during Project operation. With implementation of **Mitigation Measures HWQ-1 through HWQ-3,** the Project will not create or contribute runoff water which will exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Impacts will be **less than significant**.

c.iv) Less Than Significant Impact with Mitigation Incorporated. In the existing undeveloped condition, storm water runoff on the Project site sheet flows generally toward the onsite drainage channel which currently does not experience flooding or inundation conditions during anticipated storm events. Upon completion of the Project site development plan the site will have a water quality basin that also provides retention of storm runoff which will assure that post-development storm water runoff will not exceed pre-development storm water runoff volumes, nor will it impede or redirect flood flows because the Project will not place any structures within the flood limits of the creek. Mitigation Measure HWQ-1 requires preparation and approval of a Project Hydrology Study before grading to verify basin requirements in terms of runoff detention which will assure the Project will not substantially increase the rate or amount of surface runoff in a manner which will result in flooding on- or offsite. With implementation of **Mitigation Measure HWQ-1**, the Project will have a **less than significant impact** in this regard.

d) Less Than Significant Impact. The Project site is not located within a FEMA designated flood hazard area or a local City/County designated "Flood Hazard Area." The Project site is located approximately 25 miles east of the nearest coastline (Pacific Ocean) therefore the risk associated with tsunamis is negligible. The General Plan indicates the onsite drainage channel and the portion of site northeast of the channel are within the dam inundation area of Little Lake located four miles southeast of the site (GP 2030 Figure 6.3, *Dam Inundation Areas*). The Project site is not located near any impounded body of water and the onsite drainage channel does not contain any substantial flow of water most of the year. Therefore, the risk associated with a seiche to the Project site is negligible. Based on available information, the risk of pollutant release due to Project inundation caused by a flood, tsunami, or seiche is **less than significant** and no mitigation is required.

e) Less Than Significant Impact with Mitigation Incorporated. The Project has been designed to comply with the Municipal Separate Storm Sewer System (MS4) Permit for the Santa Ana Region, Waste Discharge Requirements for Discharges from the MS4 Draining the County of Riverside, the Incorporated Cities of Riverside County, and the Riverside County Flood Control and Water Conservation District within the Santa Ana Region, California Regional Water Quality Control Board. With adherence to, and implementation of the conclusions and recommendations of a Project-specific WQMP (see MM HWQ-3), the Project site development plan will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. With implementation of **Mitigation Measure HWQ-3**, impacts will be **less than significant**.

<u>Mitigation Measures</u>

HWQ-1 **Hydrology Study**. Prior to issuance of a grading permit, the applicant shall prepare a Project site Hydrology Study for review and approval by the City Engineer. The Study shall meet City requirements and include calculations demonstrating the physical requirements for the onsite water quality basin in terms of storm water detention capacity for expected flood flows. The Study shall demonstrate that post-development offsite runoff will be equal or less than that under pre-development conditions. All submitted plans as appropriate shall be consistent with the Hydrology Study. This measure shall be implemented to the satisfaction of the City Engineer.

HWQ-2 **SWPPP.** Prior to issuance of a grading permit, the applicant shall prepare a Storm Water Pollution Prevention Plan (SWPPP) on the Project site for review and approval by the City Engineer. The SWPPP shall meet the City's requirements for such studies and include but not be limited to erosion and siltation reduction measure Best Management Practices (BMPs) to be implemented during construction. At the completion of construction, the Project will consist of impervious buildings surfaces, landscaped planters, and post-construction (operational) BMPs to be addressed in a Water Quality Management Plan (WQMP - see MM HWQ-3). All submitted plans as appropriate shall be consistent with the SWPPP. This measure shall be implemented to the satisfaction of the City Engineer.

HWQ-3 **WQMP.** Prior to issuance of a grading permit, the applicant shall prepare, and the City Engineer shall review and approve a Water Quality Management Plan (WQMP) for the Project site. The

WQMP shall meet the City's requirements for such studies and include but not be limited to Best Management Practices (BMPs) for long-term water quality to be implemented by the Project after the completion of construction. The WQMP shall identify appropriate post-construction (operational) BMPs to address increases in impervious surfaces, methods to decrease incremental increases in off-site stormwater flows, and methods for decreasing pollutant loading in off-site discharges as required by the applicable NPDES requirements. All submitted plans shall be consistent with the WQMP. This measure shall be implemented to the satisfaction of the City Engineer.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING				
Will the project:				
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?	☐	☐	☐	☑

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

Explanation of Checklist Responses

a) No Impact. The Project site is vacant and bordered by commercial/industrial uses to the north and south, a mobile home park to the southwest, rural residential uses to the west, and vacant land to the east and northwest (see previous Exhibit 1). The Project proposes to develop 231,669 square feet of light industrial office and warehouse uses on 32.1 acres. The uses surrounding the site are mixed but of primary concern will be conflicts with established residential neighborhoods to the southwest and west. At this time, the site is fenced and public access to the site is prohibited, and in any case will not function as a non-vehicular connection between two or more residential neighborhoods. The site has long been designated for light industrial use and no changes to the General Plan or zoning designations are proposed. Also, the Project will not create any streets that could alter the existing surrounding pattern of development or established community. will serve to divide existing neighborhoods. Therefore, there will be **no impact** relative to dividing established communities from the proposed Project.

b) No Impact. The Project proposes 231,669 square feet of light industrial office and warehouse buildings on 32.1 acres for a factory to manufacture and sell modular homes. The Project as proposed has a Floor Area Ratio (FAR) of 0.166 (231,669 SF divided by 32.1 acres). The Project is consistent with both the General Plan land use designation Industrial (FAR 0.45) and the zoning classification Commercial-Manufacturing (C-M) for the site. The Project proposes no change to either the General Plan designation or zoning classification and will be developed in accordance with the existing land use and zoning designations. Since the Project proposes no changes to the General Plan or zoning, there will be no conflicts with those plans and thus no impacts or environmental impacts from changes related to those plans.

The Project is requesting a Conditional Use Permit (CUP) to allow an increase in maximum height for two of the Project buildings. The maximum height within the C-M zone is 35 feet but Buildings B and C are proposed with a maximum height of 60 feet at the highest point of the roof. These two buildings are in the northeast portion of the site which is also at a lower elevation than the western portion of the site which is adjacent to a mobile home park to the south and rural residential to the west. Therefore, Buildings B and C will not block views or scenic vistas of the San Jacinto and San Bernardino Mountains to the north and will not substantially block views to the east of the Santa Rosa Mountains which is a goal of the General Plan.

The Project will be required to comply with applicable policies of the General Plan regarding the protection of biological and cultural resources, air quality, noise, and other environmental issues. Therefore, the Project will not cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction adopted for the purpose of avoiding or mitigating an environmental effect. There will be **no impact** and no mitigation is required.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES				
Will the project:				
a) Result in the loss of availability of a known mineral resource that will 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 the general plan, specific plan, or other land use plan?	☐	☐	☐	☑

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.
City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

Explanation of Checklist Responses

a) No Impact. State law requires the General Plan to address the need for conserving mineral resources within the City and its sphere of influence. The California Geological Survey has prepared mineral resource reports designating the mineral deposits of statewide or regional significance. These reports are to be used to address mineral resources within the City. The State Geologist has classified areas into Mineral Resource Zones (MRZ) identifying the statewide or regional significance of mineral deposits based on the economic value and accessibility of the deposits. Within the City, including the Project site, the State has applied the MRZ-3 classification which refers to areas containing known mineral occurrences of undetermined mineral resource significance. The MRZ-3 designation in the City refers to sedimentary deposits that have the potential to supply sand and gravel for concrete and crushed stone for aggregate. However, the City does not consider these areas to contain deposits of significant economic value, based on available data. The General Plan states the City contains "no mineral deposits of statewide or regional importance but some mineral resources have the potential for local significance. For example, limestone, serpentine, sand, and gravel were historically mined in the Bautista Canyon, Diamond Valley, and the Salt Creek and San Jacinto riverbeds, respectively" (2030 GP p. 7-20). However, no significant mineral resources have been identified on the Project site, and the location and type of land uses surrounding the Project site will highly constrain mining of any sand or gravel from the site.

No mineral resources are known to occur on the Project site, nor has the Project site been previously used for mineral extraction. The Project site also has minimal potential to be mined in the future because it is largely surrounded by commercial, industrial, and residential development and is not considered a state designated mineral resource extraction zone. Therefore, development of the Project site will not result in the loss of a known mineral resource that will be of value to the region and residents of the State. There will be **no impact** in this regard.

b) No Impact. The General Plan indicates the Project site is not located within or adjacent to any known mineral extraction or recovery sites (2030 GP p. 7-20). Therefore, the proposed Project will not result in the loss of any locally important mineral resources. There will be **no impact** in this regard.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE				
Will the project:				
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 general plan or noise ordinance, or other applicable standards?	☐	☐	☑	☐
b) Generation of excessive groundborne vibration?	☐	☐	☑	☐
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, will the project expose people residing or working in the Project site to excessive noise levels?	☐	☐	☐	☑

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

Eilar Associates, Inc. (EAI). Noise Impact Analysis, S2A Modular Factory State Street & Crows Nest Place. June 18, 2020. (Appendix E)

Explanation of Checklist Responses

a) Less Than Significant Impact. A noise impact assessment for the Project was prepared and the results summarized below (EAI 2020). The noise study was submitted to satisfy the noise requirements of the City of Hemet. Its purpose is to assess noise impacts from potential project-related noise sources, such as mechanical equipment, site activity, and project-generated traffic, as well as temporary construction noise. This analysis aims to determine if additional project design features are necessary and feasible to reduce these impacts to comply with the applicable noise regulations of the City of Hemet Public Safety Element to the General Plan and Municipal Code. Potential impacts will also be assessed for significance per the California Environmental Quality Act (CEQA).

Sound/Noise Characteristics

Sound is caused by increases in air pressure but to be “heard” by humans they must be received or sensed by the ear. Noise is simply defined as unwanted sound. Noise or sound level values are typically expressed in terms of decibels using the A scale of weighting which best approximates the hearing range and sensitivity of humans. Time-averaged noise levels are expressed by the symbol LEQ for a specified time period. The Community Noise Equivalent Level (CNEL) is a calculated 24-hour weighted average, where sound levels during evening hours of 7 p.m. to 10 p.m. have an added 5 dB weighting, and sound levels during nighttime hours of 10 p.m. to 7 a.m. have an added 10 dB weighting. This is similar to the Day-Night sound level, LDN, which is a 24-hour average with an added 10 dB weighting on the same nighttime hours but no added weighting on the evening hours. Sound levels expressed in CNEL are always based on A-weighted decibels. These metrics are used to express noise levels for both measurement and municipal regulations, for land use guidelines, and for enforcement of noise ordinances.

Sound pressure is the actual noise experienced by a human or registered by a sound level instrument. When sound pressure is used to describe a noise source, the distance from the noise source must be specified in order to provide complete information. Sound power, on the other hand, is a specialized analytical metric to provide information without the distance requirement, but it may be used to calculate the sound pressure at any desired distance.

Applicable Noise Regulations

The City General Plan Public Safety Element specifies noise level limits to nearby noise-sensitive receivers. Noise levels have been evaluated at the nearest noise-sensitive receivers beyond adjacent roadways and sidewalks. The General Plan states that noise impacts to off-site noise-sensitive receivers should not exceed 60 dBA LEQ between the hours of 7 a.m. and 10 p.m. and 45 dBA LEQ between the hours of 10 p.m. and 7 a.m. Additionally, maximum noise impacts should not exceed 75 dBA LMAX during daytime hours, and 65 dBA LMAX during nighttime hours. The General Plan also incorporates a five-decibel penalty for simple tone noises such as truck backup alarms.

Additionally, Section 67-10 of the City of Hemet Municipal Code states that grading activity is limited to between the hours of 6 a.m. and 6 p.m. from June 1 through September 30 and between the hours of 7 a.m. and 6 p.m. from October 1 to May 31 on Monday through Friday. Grading is prohibited on Saturdays between the hours of 6 p.m. and 7 a.m. and Sundays, year-round. The Code does not include specific noise limits for construction activities, but 75 dBA is a commonly used suburban construction noise threshold that has been applied to this Project.

Existing Noise

The only major noise sources in the Project area are automobile and truck traffic along State Street which is a four-lane Divided Secondary Roadway running north-south along the east boundary of the Project site. The posted speed limit is 45 mph north of the site and 40 mph south of the site although the observed speed was approximately 55 mph. In the vicinity of the Project site, State Street currently carries a traffic volume of approximately 20,000 Average Daily Trips (ADT). The noise study measured a noise level of 76.5 dBA LEQ at 35 feet from the State Street centerline.

Onsite Construction Noise

The noise study estimated temporary construction noise impacts based on information from the project description about stages of construction and equipment. The closest sensitive receptors to the site are the mobile home park residences immediately south of the site and rural residences immediately west of the site. Noise levels were calculated at residential receivers to the south since the residences to the west and any off-site receivers are located at a greater distance from the Project site and will therefore be exposed to lesser noise impacts.

Construction noise sources were placed near the center of various work areas on the western portion of the site to evaluate typical impacts to these receivers as equipment moves around the property during the worst-case phases of construction. Depending on the stage of construction, the approximate center of work is expected to be located roughly 115 to 300 feet from the nearest sensitive receiver location. Noise calculations consider typical duty cycles of equipment to account for periods of activity and inactivity on the site. Calculated construction noise impacts during worst-case phases of construction are shown in Table 7 and a graphical representation of the receiver locations is shown in Exhibit 6.

Table 7: Construction Noise Levels

Stage (Source Location)	Receiver	Equipment	Average Noise Level (dBA)
Utilities and Grading (S1)	C1	Small Dozer, Dozer, Backhoe, Water Truck	67.9
Foundation (S2)	C2	Concrete Pump Truck	59.8
Building Installation (S2)	C2	Pickup Trucks, Crane	72.6
Paving (S3)	C2	Asphalt Paver, Roller, Pickup Trucks	62.3

Source: Table 11. Temporary Construction Noise Levels at Nearest Residential Receivers (South), EAI 2020.

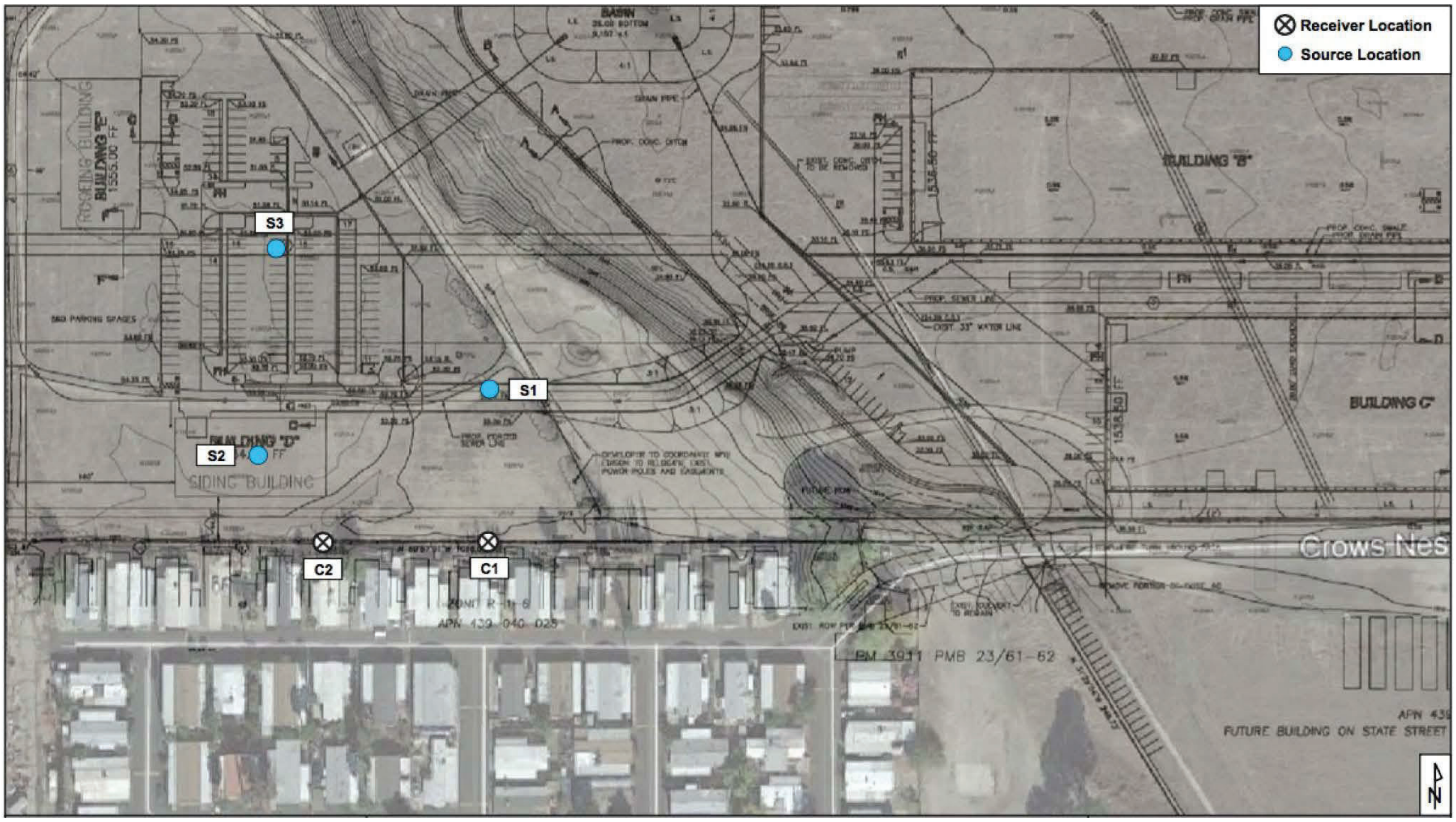

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Exhibit 6 Construction Noise Receptor Locations

S2A Modular Home Factory Project

Hemet, California

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As shown in Table 7, based on the typical noise levels and duty cycles of construction equipment, average noise levels are anticipated to remain below 75 dBA at the nearest residential property lines during the worst-case phases of construction. Any other noise-sensitive receivers are located at a greater distance from on-site activity, and therefore, will be exposed to lesser noise levels. Therefore, short-term construction noise impacts will be **less than significant,** and no mitigation is required.

Recommended Construction Noise Reduction Measures

Noise impacts were determined to be less than significant; however, the noise study recommended the following actions be implemented to help reduce noise impacts on local residents to the greatest degree practical. The City could consider making these actions Conditions of Approval as they are not considered mitigation under CEQA (i.e., impacts less than significant so no mitigation required):

1. Staging areas should be placed as far as possible from residential receivers.
2. Place stationary equipment in locations that will have a lesser noise impact on nearby sensitive receivers.
3. Turn off equipment when not in use.
4. Limit the use of enunciators or public address systems, except for emergency notifications.
5. Equipment used in construction should be maintained in proper operating condition, and all loads should be properly secured to prevent rattling and banging.
6. Schedule work to avoid simultaneous construction activities that both generate high noise levels.
7. Use equipment with effective mufflers.
8. Minimize the use of backup alarms.

Onsite Operational Noise

The primary sources of noise generated by the proposed Project are anticipated to be the proposed vehicular and HVAC equipment. Noise levels from the proposed vehicles and HVAC units were calculated for both Phase 1 and the completed Project to the closest residential properties. Hourly average noise level calculations assumed backup alarms will operate for one minute per hour, three onsite truck movements per hour, two on-site forklift movements per hour, and continuous HVAC equipment operation during hours of operation. This analysis evaluates “reasonable worst case” conditions that will be expected on the site during Project operation.

The closest sensitive receptors to the site are the mobile home park residences immediately south of the site and rural residences immediately west of the site. Table 8 shows the Project-related operational noise impacts at surrounding sensitive receivers for Phase 1 and the completed Project. Calculated noise impacts at the properties to the west and south are shown at the nearest noise-sensitive property lines. All receivers have been calculated at a height of five feet above grade. The location of the noise source and receiver locations are shown in Exhibit 7, *Operational Noise Receptor Locations* (EAI 2020).

Table 8: Operational Noise Impacts

Receiver	Description	Noise Limit (dBA)	Average Hourly Noise Level (dBA)	Max Noise Level Limit (dBA LMAX)[1]	Max Noise Level (LMAX)
Phase 1					
R1	West Property Line	60	37.0	70	51.5
R2	South Property Line	60	49.6	70	65.1
Total					
R1	West Property Line	60	50.2	70	65.9
R2	South Property Line	60	52.4	70	66.4

Source: Tables 7 and 8, EAI 2020

[1] Max noise level limit evaluated as 70 dBA to account for simple tone noise of backup alarms.

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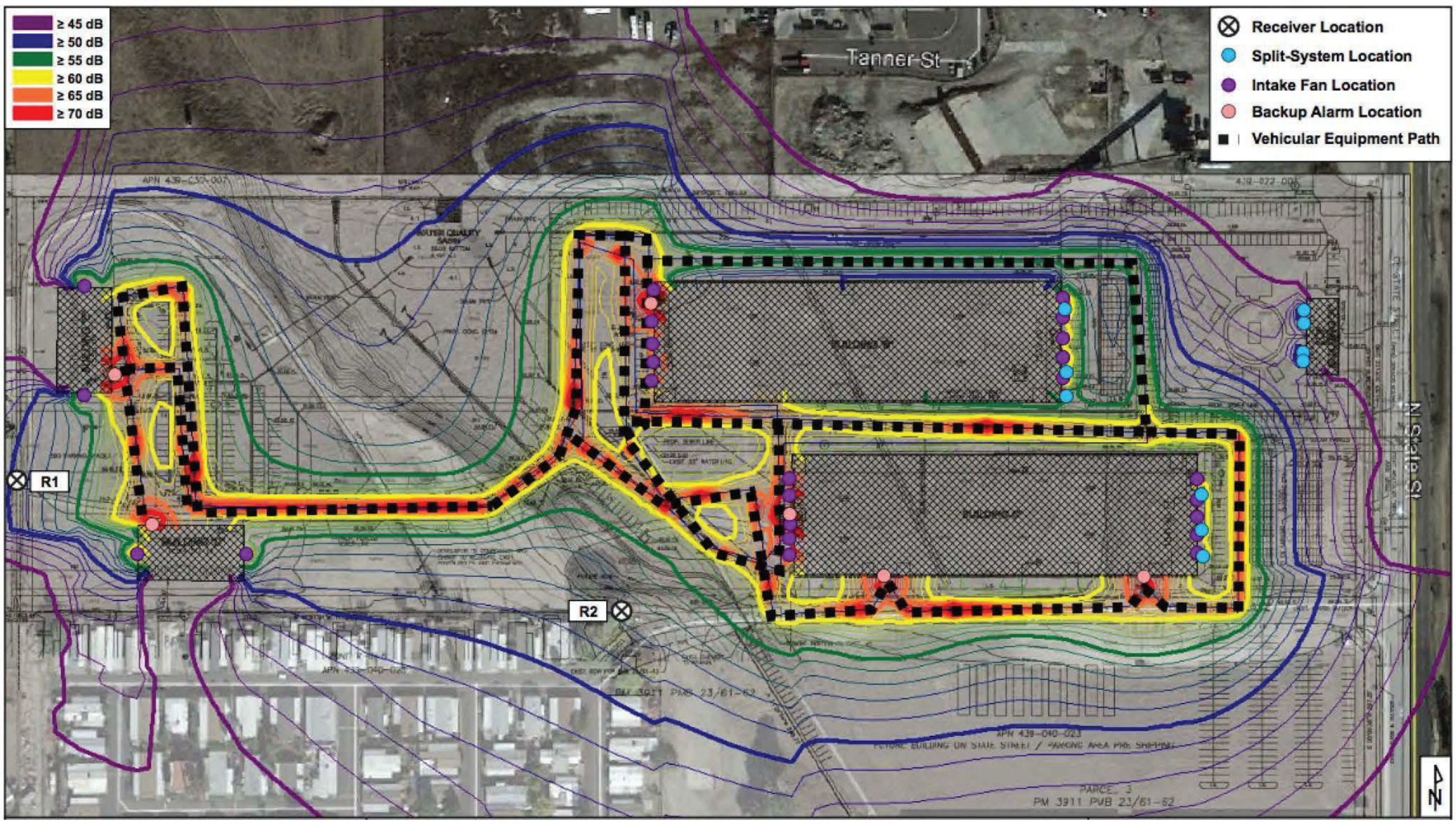

Exhibit 7 Operational Noise Receptor Locations

S2A Modular Home Factory Project

Hemet, California

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As shown in Table 8, noise levels at adjacent residential property lines will comply with the applicable daytime noise limits of the City of Hemet for both Phase 1 and the completed Project as currently designed. Therefore, no additional project design features are deemed necessary to reduce noise impacts from onsite operational activities. Impacts are **less than significant,** and no mitigation is required.

Offsite Vehicular Noise

The noise study examined potential noise impacts from change in traffic noise levels in the surrounding area with the addition of Project traffic. Data from the Project Traffic Impact Analysis TIA (Ganddini 2020) was used for this analysis. A significant direct impact occurs when Project traffic combines with existing traffic and causes a doubling of sound energy measured as an increase of 3 dB. A cumulative impact may occur when Project traffic combines with traffic generated by other proposed projects in the area and causes an increase of 3 dB. In cases where a cumulative impact is identified, the Project's contribution can be considered "cumulatively considerable" if the proposed Project accounts for more than a one decibel increase to cumulative noise levels. A cumulatively considerable impact can be identified by comparing existing plus cumulative traffic volumes to existing plus cumulative plus project traffic volumes. Project-generated traffic noise increases are shown in Table 9.

Table 9: Offsite Traffic Noise Impacts

Road	Segment	Traffic Volume (ADT)			Noise Level Increase (dB)	
		Existing	**Project**	**Cumulative**	**Direct**	**Cumulative**
State Street	North of Esplanade	21,200	290	3,200	0.1	0.7
	Between Esplanade and Crows Nest	20,000	840	4,300	0.2	1.0
	Between Le Crows Nest and Fruitvale	19,600	990	4,200	0.2	1.0
	Between Fruitvale and Menlo	20,500	930	4,200	0.2	1.0
	Between Menlo and Devonshire	18,000	660	6,500	0.2	1.5
	Between Devonshire and Florida	16,800	540	6,900	0.1	1.7
	South of Florida	11,500	290	5,200	0.1	1.7
Esplanade Avenue	West of State Street	16,500	300	1,600	0.1	0.5
	East of State Street	19,700	240	1,600	0.1	0.4
Crows Nest Place	West of State Street	200	1,200	0	**8.8**	**8.8**
Fruitvale Avenue	West of State Street	2,600	60	700	0.1	1.1
	East of State Street	1,600	0	200	0.0	0.5
Menlo Avenue	West of State Street	8,300	110	2,300	0.1	1.1
	East of State Street	10,000	170	1,400	0.1	0.6
Devonshire Avenue	West of State Street	5,200	60	300	0.0	0.3
	East of State Street	3,100	60	200	0.1	0.3
Florida Avenue	West of State Street	30,100	10	5,900	0.0	0.8
	East of State Street	29,900	90	3,900	0.0	0.5

Source: Table 9. Anticipated Traffic Noise Increases with Project-Generated Traffic, EAI 2020. **BOLD** values = significant impact

As shown in Table 9, no direct or cumulative impacts are anticipated to cause a theoretical increase of three decibels or greater along area roadways with the exception of Crows Nest Place (which is actually within the Project site). In order to determine noise impacts more accurately from internal traffic on Crows Nest Place, existing traffic noise levels were evaluated at off-site receivers and compared to traffic noise levels anticipated with the increase in traffic volumes on surrounding roadways. Table 10 shows the results of these calculations. As shown in Table 10, no direct impacts are anticipated to result from project traffic at nearby sensitive receivers resulting from the increase in traffic volumes on Crows Nest Place.

For this reason, all project-generated traffic noise levels are **less than significant,** and no mitigation is required.

Table 10: Project-Related Traffic Noise Impacts on Nearby Receivers

Receiver	Description	Existing Noise Level (CNEL)	Existing + Project Noise Level (CNEL)	Noise Level Increase (dB)
R1	West Property Line	45.6	45.9	0.3
R2	South Property Line	51.7	52.7	1.0

Source: Table 10. Anticipated Traffic Noise Increases with Project-Generated Traffic at Nearby Receivers, EAI 2020

Noise Impact Summary

Noise from temporary construction is expected to remain below applicable construction noise limits set by the City of Hemet. No construction activity will take place during the more sensitive nighttime hours when ambient noise levels tend to be lower, as per City of Hemet Municipal Code requirements. For these reasons, this impact is deemed to be **less than significant**, however, the noise study recommended a number of actions be made conditions of approval to help reduce noise impacts adjacent residential uses as much as possible.

Operational noise impacts are not expected to generate a substantial permanent increase in ambient noise levels in the vicinity of the Project site and will comply with the noise limits of the City of Hemet Public Safety Element to the General Plan, as designed. The impact of permanent project-related noise sources will therefore be **less than significant**.

Noise impacts from project-generated traffic are not expected to cause a significant direct increase or a cumulatively considerable increase on any surrounding roadway. This impact is also considered to be **less than significant**.

As demonstrated above, the Project is not expected to cause a substantial permanent or temporary increase in ambient noise levels, and therefore all of these noise impacts will be **less than significant**.

b) Less Than Significant Impact. The noise study indicated the grading stage of construction has the potential to generate the highest vibration levels as grading activities will take place closest to residential receivers and will consist of the use of loaded trucks. According to the Federal Transit Administration Transit Noise and Vibration Assessment Manual (see reference), a loaded truck generates a peak particle velocity (PPV) of approximately 0.076 inches/second at a distance of 25 feet from the equipment. The evaluation of an impact's significance can be determined by reviewing both the likelihood of annoyance to individuals as well as the potential for damage to existing structures. According to the Caltrans Transportation and Construction Vibration Guidance Manual, the appropriate threshold for damage to modern residential structures is a PPV of 0.5 inches/second. Annoyance is assessed based on levels of perception, with a PPV of 0.01 being considered "barely perceptible," 0.04 inches/second as "distinctly perceptible," 0.1 inches/second as "strongly perceptible," and 0.4 inches/second as "severe."

It is estimated the closest location to sensitive receptors will be approximately 25 feet when trucks are used near the southern boundary of the site. At this distance, the PPV will be 0.076 inches/second. This level of vibration falls well below the building damage PPV criteria of 0.5 inches/second. The impact falls between the "barely perceptible" and "distinctly perceptible" PPV criteria for annoyance, and the vibration will be reduced to "barely perceptible" levels by the time the trucks are located at a distance of 100 feet from receivers.

Since construction vibration is not anticipated to cause damage to off-site buildings and will be less than the "barely perceptible" vibration threshold for the majority of construction, the noise study concluded that temporary construction vibration impacts will not be "excessive" and therefore are **less than significant** and no mitigation is required.

c) No Impact. The Project site is not located within an airport land use plan nor is it located within two miles of a private airstrip, public airport, or public use airport. The closest airport to the Project site is Hemet/Ryan Airport which is four miles southwest of the site. There are also no heliports or private airstrips within two miles of the site. Therefore, the proposed Project will not expose people working in the project area to excessive noise levels from such uses so there will be **no impact** in this regard.

Mitigation Measures

None required

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING				
Will the project:				
a) Induce substantial unplanned population growth in an area, either directly or indirectly?	☐	☐	☐	☑
b) Displace existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

Explanation of Checklist Responses

a) No Impact. As reported by the State of California Department of Finance, the 2020 population of Hemet was approximately 85,175 persons. According to the GP EIR Table 5.10-3, Population Estimates and Projections of the GP EIR (GP EIR p. 4.10-12), Hemet is projected to have a population of 132,576 persons at buildout year 2030. The Project proposes no residences so it will not have any impact on the City's housing stock or build-out population. The Project also proposes no changes to the General Plan land use designation or zoning for the site. Therefore, the Project will not affect or increase population growth in the area so it will not induce substantial population growth. **No impact** will occur.

b) No Impact. The proposed Project site is undeveloped and there are no existing residences on the site. Therefore, the Project will not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. **No impact** will occur.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES				
a) Will the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following?				
Fire protection?	☐	☐	☑	☐
Police protection?	☐	☐	☑	☐
Schools?	☐	☐	☐	☑
Parks?	☐	☐	☐	☑
Other public services/facilities?	☐	☐	☐	☑

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

Explanation of Checklist Responses

a) Less Than Significant Impact. The City of Hemet Fire Department (HFD) provides fire protection services for the Project site and the entire City of Hemet. The HFD website indicates it began in 1908 and although it was a city fire department, it still served areas outside the city limits until 1933 when the California Division of Forestry started serving unincorporated areas of Riverside County (https://www.hemetca.gov/90/Fire). The HFD currently has five fire stations and the closest fire protection facilities to the Project site are HFD Station #1 at 220 N Juanita Street (1.8 miles south), HFD Station #3 at 4110 W. Devonshire Avenue (3.5 miles southwest), and Little Lake Station #26 (3.6 miles southeast) which is maintained jointly by Riverside County and CALFIRE (GP 2030 Figure 6.5, *Fire Facilities*). Based on an average speed of 35 miles per hour, the closest station to the Project site (Station #1) will have an estimated response time of 3 minutes. According to the General Plan, the Project site is not located within a Wildland Fire Hazard Severity Zone, a Federal Responsibility Area, or a State Responsibility Area for wildfire protection (2030 GP Figure. 6.4, *Wildland Fire Hazard Severity Zones*). The Project site is located within the urban/suburban service area of the HFD also is not within a future fire service area that will require a new fire station (2030 GP Figure 6.5, Fire Facilities). In 2009 the HFD "prepared a Fire Facilities

Plan to ensure adequate current and future coverage in the City" (2030 GP p. 6-23). Historically, the large majority of HFD service calls have been for emergency medical/rescue (GP 2030 Table 6.1, *Fire Incident Reports by Type*).

The Insurance Services Office (ISO) is a company that creates ratings based on specific criteria to determine how well equipped a fire department is to put out fires in their communities. After analyzing the data, the ISO assigns a Public Protection Classification (PPC) on a scale from 1 to 10 with 1 being best. To determine the ISO rating, the company conducts a field survey of the fire department using the Fire Suppression Rating Schedule (FSRS) with a 100 point scale based on four key areas that include; the fire department's staffing; capabilities, training, and equipment, etc. (50 points); the city's water supply/infrastructure (40 points); emergency communication systems (10 points), and community risk reduction programs (extra credit of up to 5.5 points). In 2010 the City had an ISO rating of 4 and currently maintains an ISO rating of 4 (https://www.isomitigation.com/). An ISO rating of 5 is both the median and most common rating fire departments receive. In general, urban areas tend to have better PPC scores than rural areas as urban fire departments are closer together and often receive better funding.

The proposed Project will add approximately 231,669 square feet of new offices and factory warehouses in five freestanding buildings on 32.1 acres of now vacant land. According to the City's General Plan EIR, fire protection for the City at buildout will be feasible based on the existing and planned fire stations and provisions for additional equipment as buildout occurs.

The General Plan EIR states that its policies and programs are designed to meet the City's response time performance standard of response within five minutes or less for 80% of fire and emergency medical calls. The General Plan contains the following polices and program related to fire protection services:

- Policy PS-7.5 requires the City to maintain adequate personnel, facilities, and equipment to respond to fires.
- Policy PS-7.3 requires development projects to pay for their proportional share of new fire and emergency service demand to enable construction of new fire service facilities.
- Program PS-P-16 directs the City to prepare a Fire Department Master Plan to assess current service levels and project five-year personnel, facility, and equipment needs, as well as funding strategies. (GP FEIR p. 4.12-13)

All development within the City is required to comply with the latest edition of the California Building Code (CBC), California Fire Code (CFC), and other applicable building and fire standards. All construction on the Project site will be required to comply with these building codes. Based on review of the Project site plan by the HFD, the Project site will have adequate number and location of fire hydrants to meet fire protection demand. The Project has two driveway access points from State Street for primary access and an emergency/secondary access at the northeast corner of the site which also takes access from State Street. These three access points will ensure adequate emergency access to the site for HFD.

The Project site development plan proposes a modular home factory which will incrementally add to the existing demand for fire protection services. The HFD is independently funded through a combination of ad valorem tax and parcel assessment. The HFD is a subsidiary unit of the City of Hemet and maintains an independent revenue stream through the tax rolls. In addition, capital improvements are funded through Development Impact Fees (DIFs) and special Development Agreement Fees when applicable. Incremental impacts attributed to the Project will be reduced through the payment of Fire Department DIFs.

With the implementation of General Plan policies, compliance with existing codes and standards, payment of DIFs, and through Hemet Fire Department review of the proposed Project, impacts on the demand for additional fire facilities or services will be **less than significant**. No new or altered fire protection facilities will be needed.

b) Less Than Significant Impact. The City of Hemet Police Department (HPD) provides protection services for the Project site and the entire City of Hemet. The HPD website indicates the closest police station to the Project site is Police Headquarters at 450 E. Latham Avenue (1.6 miles south) in downtown Hemet (https://www.hemetca.gov/97/Police). In addition, the City maintains mutual aid agreements with the County Sheriff's Department and the California Highway Patrol. The Sheriff's Department serves the Hemet Sphere of Influence Area and maintains a station at 43950 Acacia Avenue in Hemet. The California Highway Patrol has jurisdiction along I-215 to the west and SR-79 which passes through the City of Hemet and maintains a station at 27685 Commerce Center Drive in Temecula and at 8118 Lincoln Avenue in Riverside.

The General Plan contains the following policies and programs that are designed to maintain desired levels of service for police protection for existing and new residents, and to attain the City's performance standard of a seven minute average response time for emergency calls within urban areas and a nine minute average response time for emergency calls within rural areas:

- Policy PS-8.1 requires the City to maintain high public safety standards related to police protection, such as response times.
- Policy PS-8.3 requires development projects to pay their proportional share of the cost of providing additional police protection and services, including development of new facilities.
- Program PS-P-24 directs the City to prepare a Police Department Master Plan to assess current service levels and project five-year personnel, facility, and equipment needs, as well as funding strategies. (GP FEIR p. 4.12-14)

Fortunately, the Project offices and showrooms are close to and visible by HPD officers traveling along from State Street. The Project site is located within existing patrol routes, and future calls could be responded to within the identified priority call target response times. Review of the proposed Project by the HPD will ensure the onsite design features such as multiple ingress/egress routes, perimeter lighting, and surveillance and alarm systems comply with the General Plan Safety Element goals to enhance community safety, protect life and property, and reduce crime.

According to the City's General Plan EIR, law enforcement protection for the City at buildout will be feasible based on incremental expansion of the number of officers as the population and number of new businesses increases (GP FEIR p. 4.12-14). The construction of the proposed Project will incrementally increase the need for police protection. The project's potential impacts on law enforcement facilities and staffing will be offset by payment of the DIF at the time of building permit issuance. Funding for continued operation and maintenance will be provided by the City's General Fund and through special revenue funds.

With adherence to onsite security measures required by the City and payment of the City's mandatory DIF fee, the proposed Project will not increase demand for law enforcement services to a point that new or altered police facilities will be required. Impacts will be **less than significant,** and no mitigation is required.

c) No Impact. Although the proposed Project is located in the City of Hemet, the San Jacinto Unified School District (SJUSD) provides school facilities and services to the northern portion of Hemet. According to the SJUSD website, the District serves grades K-12 with six elementary schools, two middle schools, one comprehensive high school, one continuation high school, and eight additional facilities. The SJUSD started in 1865 with 12 students and has grown to a current enrollment of almost 12,000 students (https://www.sanjacinto.k12.ca.us/).

The proposed Project is a non-residential development so it will not generate new students who will require housing and educational services through the SJUSD. Any indirect impacts to SJUSD facilities will be offset through the payment of non-residential development impact fees prior to the issuance of a building permit. The District's current approved Statutory School Fee (Level I) for commercial development is $0.56 per square foot. This fee is subject to change and the applicable fees at time of building permit issuance shall apply.

Under CEQA and SB 50, the payment of established development impact fees is considered full mitigation in accordance with *California Government Code* Section 65995 and *California Education Code* Section 17620. This includes non-residential development like the proposed Project that will not directly generate new students to be served by the SJUSD. As required of all development, the proposed Project will be required to pay applicable development fees established by the District prior to the issuance of permits. Payment of required school development fees sufficiently offsets any impact the proposed Project will have on school services and facilities. Therefore, there will be **no impact** on school facilities.

d) No Impact. Park and recreation facilities in the Hemet area are maintained by four agencies: The City of Hemet, Valley Wide Parks and Recreation District (Valley-Wide District), Hemet Unified School District, and the Riverside County Department of Parks and Recreation. The City includes 17 parks and recreational facilities with programs ranging from purely passive recreational use to heavily programmed use. A variety of recreational opportunities are offered at each park depending upon the size of the park and the type of facilities, and many parks are located adjacent to schools or community centers. According to the General Plan, there were 700.25 acres of parkland in the City in 2010 which represented 9.2 acres per 1,000 residents based on the City's estimated 2010 population of 75,820.

New residential development typically creates new demands and impacts on parks and recreational programs by adding new residents to the City who directly utilize these resources. However, the proposed Project is industrial so it will have at most incremental indirect impacts on local parks and recreational programs. Since the Project is non-residential, payment of required public facilities Development Impact Fees (DIF) will more than offset any indirect impact the proposed Project on local or regional parks or recreational facilities. Therefore, the Project will have **no impact** on parks and recreational facilities.

e) No Impact. Typically, residential development has demonstrable impacts on other public services and facilities (e.g., library, health care, etc.). The proposed Project is a light industrial development which will have minimal if any impacts on such services. Prior to the issuance of a building permit, the proposed Project will be required to pay the City's current DIF for implementation of the MSHCP open space/habitat plan and other public services. In addition to the MSHCP, other services covered by the City's non-residential DIF include: Bridge Signals & Thoroughfares; Fire Suppression Facilities; General Facilities; Law Enforcement Facilities; Lighting & Landscaping Maintenance Fees; Retention Basin Capacity Fee; Sewer Connection; Storm Drainage Facilities; Water Holding and Distribution Fee; School Fees (through the appropriate school district); and Sewer and Water Fees (through EMWD). Payment of the DIF, which is considered a standard condition, will offset the impacts to MSHCP open space acquisition and other public services to a **less than significant** level and no mitigation is required.

<u>Mitigation Measures</u>

None required.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION				
Will the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that physical deterioration of the facility will be accelerated?	☐	☐	☐	☑
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☑

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

Explanation of Checklist Responses

a) No Impact. Park and recreation facilities in the Hemet area are maintained by four agencies; the City of Hemet, Valley Wide Parks and Recreation District (Valley-Wide District), Hemet Unified School District, and the Riverside County Department of Parks and Recreation. The planning area includes 17 parks and recreational facilities with programs ranging from purely passive recreational use to heavily programmed use. A variety of recreational opportunities are offered at each park depending upon the size of the park and the type of facilities, and many parks are located adjacent to schools or community centers. According to the General Plan, there were 700.25 acres of parkland in the City in 2010 which represented 9.2 acres per 1,000 residents based on the City's estimated 2010 population of 75,820.

Typically, new residential development creates new demands and impacts on parks and recreational programs by adding new residents to the City who directly utilize these resources. However, the proposed Project is industrial so it will have at most incremental indirect impacts on local parks and recreational programs. Since the Project is non-residential, payment of required public facilities Development Impact Fees (DIF) will more than offset any indirect impact the proposed Project on local or regional parks or recreational facilities. Therefore, while the Project have no impact and will not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated.

b) No Impact. The Project is industrial and non-residential in nature so it will not generate a significant need for new or expanded park facilities. In addition, the Project will not construct any new park or related facilities so there is no need for additional analysis in this regard in other sections of the Initial Study (i.e., Air Quality, Biology, Cultural Resources, etc.). Therefore, the Project will not create impacts from the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. There is **no impact**.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION				
Will the project:				
a) Conflict with applicable program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☑	☐
b) Will the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☑	☐
c) Substantially increase hazards due to a geometric design feature or incompatible uses?	☐	☐	☐	☑
d) Result in inadequate emergency access?	☐	☐	☐	☑

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

Ganddini Group, Inc. *S2A Modular Manufacturing Traffic Impact Analysis, City of Hemet.* May 19, 2020.

Hemet demographic data (website https://datausa.io/profile/geo/hemet-ca#economy)

Explanation of Checklist Responses

a) Less than Significant Impact. A Traffic Impact Analysis was prepared for the Project (Ganddini 2020). The CEQA thresholds of significance for transportation and traffic impacts have shifted in recent years. In the past the analysis focused on the Level of Service (LOS) which measured congestion at local intersections and roadway segments. The emphasis of these past studies was to assure the street grid network functioned well and allowed for efficient movement of vehicles. The current focus is to encourage active transportation (e.g., pedestrians, bicyclists, etc.) and transit, and to limit increases in Vehicle Miles Travelled (VMT). An important part of this analysis is to determine if a proposed action is consistent with both the vehicular and non-vehicular aspects of the Circulation Element of the General Plan.

Non-Vehicular Plan Consistency

Goal C-4 of the General Plan Circulation Element states “Promote and support modes of transportation that offer an alternative to single-occupancy automobile use and help reduce air pollution and road congestion.” Emphasizing non-vehicular transportation are also key elements of SB 375 and SCAG’s Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS). Non-vehicular transportation includes pedestrians (sidewalks, trails), bicycles (on-road lanes or off-road paths), bus transit, and train transit.

Sidewalks will be available along the west side of State Street to allow employees access to commercial and other uses to the north and south of the site (i.e., along Esplanade Avenue to the north and Menlo Avenue and Florida Avenue to the south). Bicycle lanes are provided on State Street, Menlo Avenue, Devonshire Avenue, and Florida Avenue. On-street bicycle lanes are planned in the City General Plan for State Street north of Devonshire Avenue, Menlo Avenue, Devonshire Avenue, and Florida Avenue. The Riverside Transit Agency (RTA) operates a number of bus routes in the Project area including Routes 31, 32, 33 and 217 along State Street, Route 42 along Esplanade Avenue, Route 32 along Menlo Avenue, Routes 21 and 33 along Devonshire, Route 28 along Florida Avenue, as well as the Amtrak train station at State Street north of Florida Avenue (1.4 miles south of the Project site).

The proposed Project is non-residential in nature so it will not directly generate new residents who will want to take regular advantage of non-vehicular transportation. However, employees of the proposed Project will be able to take advantage of these non-vehicular transportation options (i.e., sidewalks, bicycle lanes, or transit) as they so choose, although using them as a replacement for commuting will only be possible if an employee lived within a convenient distance to the Project site. Based on the availability of non-vehicular transportation options, the proposed Project will not conflict with applicable program, plan, or ordinance on the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Therefore, the Project will have a **less than significant impact** in this regard and no mitigation is required.

Highway Impacts

In addition to traffic impacts on local roadways and intersections, Caltrans is a responsible agency for traffic impacts on state freeways and highways. Florida Avenue (SR-79) is a nearby roadway that would be affected by Project-related traffic. The TIA determined that this State highway study intersection is forecast to operate at Level of Service D or better during peak hour conditions per GP Policy C-1.3. This analysis included a conservative “worst case” assumption for the State Street/Florida Avenue (SR-79) intersection that no re-routing of eastbound-westbound traffic on Florida Avenue will occur with the proposed future alignment of SR-79 to the west of State Street. If and when such a realignment occurs, it could likely alleviate congestion at this intersection. Therefore, the Project will have a **less than significant impact** regarding highways and no mitigation is required.

Development Impact Fees

The primary way that impacts from new development on local roadways and intersections are addressed is through the imposition of Development Impact Fees (DIF) which are collected on all new development projects in the City. The fees are used to build improvements to serve new development or to reduce their impacts. Traffic capital improvement projects are funded in part by City DIF Fund 329 (Bridges, Streets and Traffic Facilities). The Development Impact Fee provides a funding mechanism for arterial streets, traffic signals, interchange improvements. The City of Hemet Development Impact Fee costs include acquiring (right-of-way), designing, constructing, improving, and maintaining arterial streets from the current lane configuration to the ultimate lane configuration, new traffic signal as warranted, and interchange improvements. As required by City Code, all development projects are required to pay the DIF as a condition of development. At some locations, payment of the City of Hemet Development Impact Fee (DIF) will constitute mitigation of cumulative impacts. As mitigation for potential cumulative impacts, the proposed Project shall contribute towards the identified improvements through an adopted traffic impact fee program, or through an equivalent fair share contribution for improvements not covered within such fee programs. Typically, applicable fees include the City of Hemet Development Impact Fee, and the County of Riverside Transportation Uniform Mitigation Fee (TUMF) and Road and Bridge Benefit District (RBBD) programs.

Circulation Element Consistency

The proposed Project must also be consistent with the following goal and policies of the General Plan Circulation Element that are applicable to the Project:

GOAL C-1: *Build and maintain a transportation system that is designed to meet the current and future needs of Hemet's residents and businesses while providing a balance between mobility, cost, and the quality of the City's living environment.*

POLICIES

C-1.3 **Traffic Flow.** Maintain Level of Service (LOS) C or better for roadway segment operations, and LOS D or better for peak-hour intersection movements. Portions of Florida Avenue and Sanderson Avenue may operate at or below LOS D on a case-by-case basis.

Analysis: As outlined in the Congestion Management section below, the Project will install a traffic signal at State Street/Crows Nest Place and make improvements to State Street/Menlo Avenue which will maintain LOS within this standard.

C-1.5 **Traffic Control System.** Provide a coordinated traffic control system that moves traffic within and through the City in an efficient and orderly manner. Upgrade systems as technology evolves.

Analysis: As outlined in the Congestion Management section below, the Project will install a traffic signal at State Street/Crows Nest Place and make improvements to State Street/Menlo Avenue which complies with this policy.

C-1.15 **New Development.** Approval of new development projects shall: b. require new developments to meet roadway and intersection performance standards and/or contribute their fair share toward improvements pursuant to a traffic impact analysis;

Analysis: As outlined in the Congestion Management section below, the Project will install a traffic signal at State Street/Crows Nest Place and make improvements to State Street/Menlo Avenue which complies with this policy.

C-1.17 **Traffic Analyses.** Evaluate development proposals for potential impacts on the transportation and infrastructure system based on traffic analyses that follow the protocols established by the City. The traffic analysis should evaluate the need for both ultimate and interim improvements resulting from the development proposal.

Analysis: As outlined in the Congestion Management section below, a Traffic Impact Analysis was prepared for the Project that meets the City's requirements, so the Project complies with this policy.

Based on this analysis, the Project is consistent with the Circulation Element and will have a **less than significant impact** and no mitigation is required.

Congestion Management

LOS congestion is no longer a CEQA significance threshold, however, the City uses LOS analyses to identify specific improvements that individual projects need to install or contribute to as part of maintaining and improving the overall network (e.g., road improvements may include sidewalks, bicycle lanes, or transit stops/shelters that improve the non-vehicular circulation network as well). Therefore, the following is presented from the TIA for informational purposes only and to identify any Project-related improvements that might result in direct or indirect environmental impacts.

(1) Past CEQA court cases required an evaluation of traffic impacts if a project were built out immediately based on existing conditions. The TIA determined that all the Project area intersections will operate at acceptable LOS D or better (GP Policy C-1.3 in the Circulation Element) except State Street at Crows Nest Place but this condition could be alleviated by

installation of a traffic signal at that intersection. This improvement must be installed before the Project is operational.

(2) In the opening year, all intersections will operate at acceptable LOS D or better except State Street/Menlo Avenue. This intersection will need the following improvements: (a) reconfigure eastbound approach striping to include one left turn lane and one shared through/right lane; (b) reconfigure westbound approach striping to include one left turn lane, one through lane, and one right turn lane; and (c) modify traffic signal phasing to provide permissive eastbound and westbound phasing. This improvement must be installed before the Project is operational to the satisfaction of the City Public Works Department.

(3) A construction work site traffic control plan (TCP) be submitted to the City for review and approval prior to the start of construction as set for in the 2014 California Manual of Uniform Traffic Control Devices. This will be made a condition of approval of the Project (i.e., it is not mitigation because LOS is no longer a CEQA threshold) which must be installed before the Project is operational.

(4) All roadway design, traffic signing and striping, and traffic control improvements related to the proposed Project shall be constructed in accordance with applicable State/Federal engineering standards and to the satisfaction of the City Public Works Department.

(5) All roadway design, traffic signing and striping, and traffic control improvements relating to the pro posed Project should be constructed in accordance with applicable State/ Federal engineering sta ndards and to the satisfaction of the City of Hemet Public Works Department.

(6) State Street adjacent to the site shall be constructed and/or repaired at its ultimate half-width section including landscaping and parkway improvements prior to occupancy of the Project or as required by the City Public Works Department.

(7) The final grading, landscaping, and street improvement plans shall demonstrate that sight distance standards are met in accordance with applicable City and Caltrans standards.

(8) The City shall periodically review traffic operations in the vicinity of the Project once the Project is operational to assure that traffic operations are satisfactory to the satisfaction of the City Public Works Department.

These eight (8) items will be made conditions of approval of the Project (i.e., it is not mitigation because LOS is no longer a CEQA threshold). Indicated improvements shall be installed before the Project is operational. None of these improvements or actions will result in any direct or indirect environmental impacts that require separate mitigation.

b) Less Than Significant Impact. Level of Service (LOS) has long been the standard of determining significant traffic impacts under CEQA, which in turn influence air pollutant emissions. In 2013 the state legislature passed SB 743 which requires agencies to focus on reducing vehicle miles traveled (VMT) rather than LOS as a determination of significance under CEQA. Per the 2020 CEQA Statute and Guidelines, vehicle miles traveled (VMT) is "the most appropriate measure of transportation impacts." According to the State of California's *Technical Advisory on Evaluating Transportation Impacts in CEQA* "residential, office, and retail projects tend to have the greatest influence on VMT." OPR recommended that specific thresholds outlined in the Technical Advisory be used for analysis and mitigation of those types of projects but also advised that lead agencies may develop thresholds for other project types if they so desire. In this case, the Project is an atypical light industrial development with offices, showrooms, and warehouse buildings supporting commercial manufacturing uses (i.e., modular housing assembly). This type of manufacturing generates a relatively small amount of traffic compared to logistics centers or retail product storage warehouses. For example, the Traffic Impact Analysis (TIA) for the Project determined the Project would generate 911 total daily trips with 143 peak AM trips and 155 peak PM trips. Since approximately 21.4 percent of these trips (195 v. 983) are various sizes of trucks, traffic impacts were also estimated using Passenger Car Equivalents (PCE) to account for the lengths of trucks vs. passenger vehicles (i.e., trucks experience more delay at intersections equivalent to 1.5 to 3.0 passenger cars depending on its actual size). The TIA also estimated the Project would generate 1,170 daily PCE trips which is 28 percent higher than the 911 vehicle trips. The TIA also estimated the Project would generate 218 PCE trips during the AM peak hour and 204 PCE trips during the PM peak hour (Ganddini 2020, p. 23 and Table 2).

OPR and the 2020 State CEQA Guidelines mandate the use of quantitative VMT calculations starting July 1, 2020. However, WRCOG and SCAG have not yet adopted sub-regional thresholds against which to compare project VMT generation to determine if a project meets the recommended VMT reductions under SB 743 (i.e., 15 percent below the sub-regional threshold): therefore project impacts cannot be compared to sub-regional thresholds to determine significance.

The general guidance from the State to date has been that projects which decrease overall VMT will be considered to not have a significant impact under the new analysis guidelines. At present, Hemet has 26,100 jobs compared to 29,193 households so it has a jobs/housing ratio of 0.89 (Data USA 2020). This means the City is “housing rich” or “jobs poor”. SCAG considers communities that have a job/housing ratio of 1.15 which is the regional average as maintaining a healthy balance of trip generating vs. trip attracting uses, thereby helping to minimize regional VMT over the long-term. The Project will add approximately 100 new workers to the City’s workforce which will help improve the City’s jobs/housing balance.

The Project will also reduce out of town commute trips for City residents that work at the Project so residents can travel shorter distances to work and other destinations. At present, Hemet is “housing rich” and relatively distant from larger employment sources in the Inland Empire (e.g., Perris, Moreno Valley, Riverside, San Bernardino, etc.).

Also, the proposed City-wide VMT reduction strategies outlined in the General Plan do not apply to the proposed Project. These policies include: (1) creating Mixed Use Areas; (2) Providing Pedestrian Facilities; (3) Implement Neighborhood Electric Vehicle (NEV) Network; (4) Incorporate Bike Lanes/Increase Density; and (5) Increase Transit Accessibility (Table 4.2 Trip Reduction Strategies Measure Applicability VMT Reduction Range, GP 2030). However, it should be noted the Project will have a number of electric vehicle charging stations (site plan indicates 10) plus future EV connections for electric trucks to move materials in and modular homes out of the Project site.

Finally, a low-VMT screening analysis was performed using the WRCOG VMT Screening Tool by the Project traffic consultant (TIA VMT Memorandum, Ganddini Group, July 2020). The Project site is located entirely within the Riverside Traffic Analysis Model (RivTAM) Traffic Analysis Zone 4,259. Since the City of Hemet has not established a VMT threshold, Table 11 evaluates eight potential thresholds for non-residential uses based on those more commonly observed among early adopters of the VMT metric.

Table 11
Low VMT Area Screening Analysis

Metric	Project (TAZ 4259)	Potential Thresholds			
		Regional Average	15% Below Regional Average	Jurisdictional Average (WRCOG Default)	15% Below Jurisdictional Average
Total VMT / SP	17.30	24.32	20.67	22.75	19.34
Meets Project VMT ≤ threshold?	--	*Yes*	*Yes*	*Yes*	*Yes*
Home-Based Work VMT / Worker	6.76	13.53	11.50	7.62	6.48
Meets Project VMT ≤ threshold?	--	*Yes*	*Yes*	*Yes*	*No*

Notes:

Source: WRCOG VMT Screening Tool 2020
VMT = Vehicle Miles Traveled; SP = Service Population

As shown in Table 11, the proposed Project is estimated to generate approximately 17.30 VMT per service population and 6.76 home-based work VMT per worker. The Project VMT does not exceed the potential screening threshold based on jurisdictional average, which is the default screening threshold used in the WRCOG Screening Tool. Additionally, the Project satisfies the screening criteria for seven out of the eight potential thresholds evaluated.

Since SCAG and WRCOG have not yet established sub-regional goals, it cannot be determined whether the Project quantitatively meets the potential threshold of VMT being 15% under the jurisdictional average for this screening tool. In addition, the WRCOG guidance for using this tool does not state a project must meet all of the thresholds to be considered to have a less than significant VMT impact, but rather to assist lead agencies in their local determinations. The Project does clearly result in reduced VMT under all 8 potential thresholds evaluated since the estimated 100 new workers generated by the project will help improve the City's jobs/housing balance and result in shorter work commutes. This reduction in VMT is consistent with the State's general guidance to date that projects which decrease overall VMT will be considered to not have a significant impact. For purposes of this specific analysis, the proposed Project will result in a less than significant VMT impact based on overall results of the WRCOG low-VMT area screening tool thresholds.

Based on available information, the Project will reduce VMT in the City so it will not conflict and is consistent with CEQA Guidelines section 15064.3, subdivision (b). Impacts are **less than significant,** and no mitigation is required.

c) No Impact. The Project is adjacent to State Street, designated a four-lane divided secondary road in the City General Plan. The site plan shows the Project will have two driveways for Project vehicle entry and exit. This roadway has public right-of-way and is under the jurisdiction of the City of Hemet. Final Project site plans will be subject to City review and approval which will ensure that Project driveway intersections and internal circulation are safe, with adequate sight distance, driveway widths and stop signs where necessary for entering and exiting the site. The TIA recommended that the final grading, landscaping, and street improvement plans demonstrate that sight distance standards are met in accordance with applicable City of Hemet and Department of Transportation sight distance guidelines. This is a standard condition and is not considered unique project mitigation under CEQA. This will eliminate any Project impacts due to a geometric design feature so there will be **no impact** in this regard.

d) No Impact. A limited potential exists to interfere with an emergency response or evacuation plan during construction. Construction work in State Street will generally be limited to street frontage improvements and lateral utility connections (i.e., water, sewer) that will be limited to nominal potential traffic diversion. The Traffic Control Plan (TCP) is designed to alleviate potential construction-related circulation impacts. The TCP is a standard condition and is not considered unique mitigation under CEQA.

The proposed Project is required to comply with Fire Department requirements for adequate access. Project site access and circulation will provide adequate access and turning radius for emergency vehicles, consistent with the Fire Department's requirements. Following construction, emergency access to the Project site and area will remain as it was prior to the proposed Project. Therefore, there will be **no impact** relative to emergency response or evacuation during either construction or operation of the Project.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES				
Will the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) 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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☑	☐	☐

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

MIG, Inc. *Phase I Cultural Resources Assessment S2A Modular Factory Project*. March 26, 2020. (See Appendix C)

Explanation of Checklist Responses

a) No Impact. The Project site does not satisfy any of the criteria for a historic resource defined in Section 15064.5 of the State CEQA Guidelines. The site is not listed with the State Office of Historic Preservation (SHPO) or the National Register of Historic Places. The Project site is vacant and there are no known historically or culturally significant resources, structures, buildings, or objects located on the Project site. Results of the California Historical Resources Information System – Eastern Information Center (CHRIS-EIC) indicated that there were no previously recorded historical resources within the Project Area and no historical resources were identified during the pedestrian survey conducted as part of the Phase I Cultural Resources Assessment. However, there is one (1) historic site: P-33-012805/CA-Riv-007152H (landscape and debris scatter), and three (3) historic built environments (P-33-014709, P-33-019840, and P-33-019841) located within a one-mile radius of the Project site. These historic resources will not be impacted by the proposed Project; therefore, no impact analysis of historical resources is necessary. As such, the proposed Project will not cause an adverse change in the significance of a historical resource and impacts to historic resources are not anticipated. Therefore, no impact will occur, and no mitigation is required.

b) Less Than Significant Impact with Mitigation Incorporated. Assembly Bill (AB) 52 specifies that a project that may cause a substantial adverse change to a defined Tribal Cultural Resources (TCR) may result in a significant effect on the environment. AB 52 requires tribes interested in development projects within a traditionally and culturally affiliated geographic area to notify a lead agency of such interest and to request notification of future projects subject to CEQA prior to determining if a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. CEQA defines TCR as either a site, feature, place, or 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, that is listed or eligible for listing, on the CRHR or on a local register of historical resources as defined in Public Resources Code (PRC) Section 5020.1(k), or a resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant according to the historic register criteria in Public Resources Code Section 5024.1(c), and considering the significance of the resources to a California Native American Tribe. The lead agency is then required to notify the tribe within 14 days of deeming a development application subject to CEQA complete to notify the requesting tribe as an invitation to consult on the Pproject. AB 52 identifies examples of mitigation measures that will avoid or minimize impacts to TCR. The bill makes the above provisions applicable to projects that have a notice of preparation or a notice of intent to adopt a negative declaration/mitigated negative declaration circulated on or after July 1, 2015. AB 52 amends Sections 5097.94 and adds Sections 21073, 21074, 2108.3.1., 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3 to the California Public Resources Code (PRC), relating to Native Americans.

On August 4, 2020 the City notified the following tribes/representatives of the Project and requested notification of a desire to consult with the City per AB 52 within 30 days:

Tribe	**Representative(s)**
Agua Caliente Band of Cahuilla Indians	Patricia Garcia, Director of Tribal Hist Preserv Office
Morongo Band of Mission Indians	Raymond Huaute, Cultural Resources Specialist
Pechanga Band of Luiseno Indians	Anna Hoover, Cultural Analyst
Rincon Band of Luiseno Indians	Jim McPherson, Cultural Resources Department
Soboba Band of Luiseno Indians	Joseph Ontiveros, Cultural Resource Director
Torres Martinez Desert Cahuilla Indians	Michael Mirelez, Cultural Resources Coordinator

AB 52 contains provisions requiring Cities, Counties, and other government entities to engage in tribal consultations for projects that are not exempt from the CEQA. Government to government consultation may provide “Tribal Knowledge” of the Study Area that can be used in determining tribal cultural resources that cannot be obtained through other investigative means. Additionally, it is anticipated that during the application process the City of Hemet Community Development Department will notify the tribes of the proposed Project and will commence AB 52 consultations as specified in the regulations.
On February 11, 2020, Mr. Christopher Purtell of MIG commissioned a Sacred Lands File (SLF) records search of the Project area through the NAHC. Results of the SLF records search provided information as to the nature and location of additional prehistoric or Native American resources to be incorporated in the assessment whose records may not be available at the California Historical Resource Information System – Eastern Information Center (CHRIS-EIC). The NAHC SLF records search results (received February 24, 2020) revealed that no known “Native American cultural resources” in the SLF database are within the Project site or within a one-mile radius of the Study Area.

As per NAHC suggested procedures, follow-up letters were sent via first class mail on February 26, 2020 to the 13 Native American individuals and organizations identified by the NAHC as being affiliated with the vicinity of the Project area. The letters requested any additional information they may have about Native American cultural resources that may be affected by the proposed Project. As of March 26, 2020, the City has received three (3) tribal responses from the Morongo Band of Mission Indians, the San Manuel Band of Mission Indians, and from the Quechan Indian Tribe. The responses for the Morongo Band of Mission Indians and the San Manuel Band of Mission Indians were received on March 3, 2020. The Quechan Indian Tribe’s response was received on March 6, 2020.

The Morongo Band of Mission Indians response: they “have no additional comments to provide at this time”. The San Manuel Band of Mission Indians response: “the proposed project is located outside of Serrano ancestral territory and, as such, SMBMI will not be requesting consulting party status with the lead agency or requesting to participate in the scoping, development, and/or review of documents created pursuant to legal and regulatory mandates”. The Quechan Indian Tribe response: “this email is to inform you that we do not wish to comment on this project”. On August 14, 2020 staff received a letter on behalf of the Rincon Band of Luiseño Indians. The letter indicated that although the subject is located within the Territory of the Luiseño people, it was recommended that the City consult with the Soboba Band of Luiseño Indians who are closer to the property. The City subsequently consulted with the Soboba Tribe and the cultural mitigation measures reflect the Tribe’s input.

As of August 27, 2020, the City has received no other responses from the Native American community concerning the proposed Project. The City will continue to monitor the progress of this on-going Native American consultation.

As discussed in Phase I Cultural Resources Assessment, the results of the records research compiled from the CHRIS-EIC and a Sacred Lands File Search commissioned through the NAHC, and a pedestrian field survey failed to indicate known TCR within the Project area as specified in PRC Section 210741, 5020.1(k), or 5024.1. However, despite the disturbances of the Study Area that may have displaced or submerged archaeological resources relating to TCRs on the surface, it is possible that intact tribal cultural resources exist at depth given the proven prehistoric occupation of the region and the favorable natural conditions that will have attracted prehistoric inhabitants to the area. As a result, Mitigation

Measures CUL-1 through CUL-4, from the Cultural Resources chapter of this IS/MND, have been incorporated to reduce potentially significant impacts to previously undiscovered archaeological resources that may be accidentally encountered during Project implementation to a less than significant level. With implementation of **Mitigation Measures CUL-1 through CUL-4**, impacts will be **less than significant**.

Because the Project site has been disturbed, no human remains, or cemeteries are anticipated to be disturbed by the proposed Project. Any buried human remains will have been uncovered, collected, and/or destroyed at that time of initial development of the site. However, these findings do not preclude the existence of previously unknown human remains located below the ground surface, which may be encountered during construction excavations associated with the proposed Project. Similar to the discussion regarding archaeological resources above, it is also possible to encounter buried human remains during construction. As a result, Mitigation Measure CUL-5 has been implemented to reduce potentially significant impacts to previously unknown human remains that may be unexpectedly discovered during Project implementation to a less than significant level. Mitigation Measure CUL-5 requires that in the unlikely event that human remains are uncovered the contractor shall be required to halt work in the immediate area of the find and to notify the County Coroner, in accordance with Health and Safety Code § 7050.5, who must then determine whether the remains are of forensic interest. If the Coroner, with the aid of a supervising archaeologist, determines that the remains are or appear to be of a Native American, he/she shall contact the Native American Heritage Commission for further investigations and proper recovery of such remains, if necessary. With implementation of **Mitigation Measure CUL-5**, impacts will be **less than significant**.

<u>Mitigation Measures</u>

See Mitigation Measures CUL-1 through CUL-5 in Section V (Cultural Resources).

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS				
Will the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water, drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause adverse 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 which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☑	☐

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☑	☐

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

Eastern Municipal Water District Website, accessed June 10, 2020 (https://www.emwd.org).

Eastern Municipal Water District (EMWD). Hemet/San Jacinto Groundwater Management Area 2018 Annual Report. January 1, 2018.

Eastern Municipal Water District (EMWD). EMWD Sewer System Master Plan. 2019.
RMC Water and Environment (RMC). Eastern Municipal Water District, 2015 Urban Water Management Plan (UWMP), Final Report. June 2016.

California Integrated Waste Management Board (CIWMB) Website, accessed June 16, 2020. (https://www.calrecycle.ca.gov/stateagency/iwmplans).

Riverside County Department of Waste Resources (RCDWR) Website, accessed June 10, 2020. https://www.rcwaste.org

Explanation of Checklist Responses

a) Less Than Significant Impact. The Hemet Water Department provides water to most City residents and businesses although the Project site is actually served by the Eastern Municipal Water District (EMWD). EMWD is the water, wastewater service and recycled water provider to more than 825,000 people living and working within a 555-square mile service area in western Riverside County and is California's sixth-largest retail water agency (https://www.emwd.org/drinking-water-service).

It is estimated the Project will consume approximately 22.4 acre-feet of water per year based on 100 total employees consuming 200 gallons of water per day or 7.3 million gallons per year. The EMWD maintains an Urban Water Management Plan (UWMP) per state law that requires water purveyors to document they have adequate water supplies for their customers based on buildout of the General Plan land uses. The proposed Project is consistent with the General Plan and zoning designations for the site, so the proposed light industrial use has been taken into account in the EMWD UWMP (RMC 2016). The Project will connect to existing water lines in State Street for its potable water supply and no special or additional water facilities are needed for this incremental new service.

EMWD also provides sewer service to the Project site. EMWD provides wastewater and recycled water services to approximately 239,000 customers within its service area and currently treats approximately 46 million gallons per day of wastewater at its five active regional water reclamation facilities through 1,813 miles of sewer pipelines. The Project area is served by the San Jacinto Valley Regional Water Reclamation Facility (SJVRWRF) and has a maximum capacity of 14 million gallons per day (https://www.emwd.org/wastewater-service).

It is estimated the Project will generate approximately 10,000 gallons per day or 3.65 million gallons of wastewater per year. This estimate is based on 100 total employees generating approximately 100 gallons of waste per day. This amount of waste represents approximately 0.07 percent of the SJVRWRF's current capacity (10,000 gallons per day divided by 14 million gallons per day).

The EMWD Sewer System Master Plan (SSMP) is required by state law that requires water purveyors to document it has adequate wastewater treatment capabilities and capacity for existing and planned development based on buildout of the General Plan land uses. The proposed Project is consistent with the General Plan and zoning designations for the site, so the proposed light industrial use has been taken into account in the EMWD SSMP (EMWD 2019). The Project will connect to existing sewer lines to the west via onsite collection pipes and a sewer pump station on the east side of the onsite drainage channel. No special or additional sewer facilities are needed for this incremental new service.

Local storm drain facilities in the area are maintained by the City of Hemet while regional drainage and retention facilities are maintained by the Riverside County Flood Control and Water Conservation District. The Project proposes to maintain the onsite drainage channel in its current unimproved condition, and construct a new water quality/detention basin in the north-central portion of the site to collect and treat surface runoff as well as retain sufficient runoff during storm events to prevent an increase in downstream runoff. No new or additional storm drain facilities will be needed to serve the Project.

Electricity is provided to the Project site by the Southern California Edison Company (SCEC) which maintains an electrical generation, distribution, and service grid throughout Southern California. The Project will consume additional electricity for lighting, air conditioning, and ventilation. The Project will be a Tesla-powered "Zero Net Energy" (ZNE) facility so it is expected to consume little if any electricity off the SCEC grid. In addition, natural gas is provided to the Project area by The Gas Company (TGC) which maintains regional and local distribution lines throughout Southern California. The Project will use very little natural gas mainly for hot water heating or limited space heating during the winter months. No new or additional electrical or natural gas facilities will be needed to serve the Project.

Telecommunications services to the Project area are provided by Frontier (telephone) and Spectrum (Cable TV/Internet). The area also has a number of wireless internet and cellular telephone service companies (Verizon, Sprint, AT&T, etc.). The Project will connect to these services as needed and no special or additional telecommunications facilities are needed to serve this incremental new use.

None of the involved utility service agencies or companies have indicated that they cannot adequately serve the Project site, nor are any special new facilities needed to serve the Project. Therefore, the Project will not require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water, drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause adverse environmental effects. Impacts are **less than significant,** and no mitigation is required.

b) Less Than Significant Impact. The Project site is provided domestic water by the Eastern Municipal Water District (EMWD)(https://www.emwd.org/drinking-water-service). It is estimated the Project will consume approximately 22.4 acre-feet of water per year based on 100 total employees consuming 200 gallons of water per day or 7.3 million gallons per year. The EMWD maintains an Urban Water Management Plan (UWMP) per state law that requires water purveyors to document they have adequate water supplies for their customers based on buildout of the General Plan land uses. The proposed Project is consistent with the General Plan and zoning designations for the site, so the proposed light industrial use has been taken into account in the EMWD UWMP (RMC 2016). The Project will connect to existing water lines in State Street for its potable water supply and no special or additional water facilities are needed for this incremental new service.

In 2012, the Cities of Hemet and San Jacinto, EMWD, Lake Hemet Municipal Water District, private pumpers (agricultural users), and the Soboba Tribe developed a groundwater management plan for the Hemet–San Jacinto Basin. The Hemet/San Jacinto Groundwater Management Area (GMA) is managed by the Hemet-San Jacinto Watermaster (Watermaster) based on the Stipulated Judgment entered on April 18, 2013, in Riverside County Superior Court (Case No. RIC 1207274). The Management Area is located in the western portion of Riverside County within the San Jacinto River Watershed and includes the Cities of San Jacinto and Hemet, as well as the unincorporated areas of Winchester, Valle Vista, and Cactus Valley. The GMA encompasses approximately 90 square miles and has been divided into four groundwater management zones. The Watermaster is responsible for estimated water supplies and projected demands for the GMA, evaluating data compiled from the Groundwater Monitoring Programs, and managing the groundwater recharge program and other activities to protect the local groundwater resources (EMWD 2018).

Sources of water other than groundwater serving the City and surrounding area include the Colorado River Aqueduct, Lake Hemet, the San Jacinto River, and the State Water Project, a water storage and delivery system of reservoirs, aqueducts, power plants and pumping plants including the Sacramento–San Joaquin Delta (Delta). Approximately 30 percent of southern California's water comes from the Delta, where the rivers of the western Sierra Nevada merge before heading south through the aqueduct system of the State Water Project. The Delta's declining ecosystem, caused by a number of factors, has led to historic restrictions in water supply deliveries. The Bay Delta Conservation Plan is a long-term Delta habitat restoration program and aqueduct improvement project, which is expected to take a minimum of 10 to 12 years to complete. With years of low rainfall and the diminished supply from the Delta, these sources are also facing shortages.

The Hemet/San Jacinto Groundwater Management Area Plan and the EMWD UWMP are both based on land uses and growth projections in the General Plan. The proposed Project is consistent with the City's General Plan land use designation, so it is consistent with the area water management plans. According to their UWMP, the EMWD will have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. Therefore, impacts are **less than significant,** and no mitigation is required.

c) Less Than Significant Impact. EMWD provides sewer service to the Project site through its San Jacinto Valley Regional Water Reclamation Facility (SJVRWRF) which as a maximum capacity of 14 million gallons per day (https://www.emwd.org/wastewater-service). It is estimated the Project will generate approximately 10,000 gallons per day or 3.65 million gallons of wastewater per year. This estimate is based on 100 total employees generating approximately 100 gallons of waste per day. This amount of waste represents approximately 0.07 percent of the SJVRWRF's current capacity (10,000 gallons per day divided by 14 million gallons per day). The EMWD Sewer System Master Plan (SSMP) is required by state law that requires water purveyors to document it has adequate wastewater treatment capabilities and capacity for existing and planned development based on buildout of the General Plan land uses. The proposed Project is consistent with the General Plan and zoning designations for the site, so the proposed light industrial use has been taken into account in the EMWD SSMP (EMWD 2019). Therefore, EMWD has adequate capacity to serve the Project's projected sewer demand. Impacts will be **less than significant,** and no mitigation is required.

d) Less Than Significant Impact. The City of Hemet contracts with CR&R Incorporated for waste collection and transfer services. The City's waste reduction goals and policies are primarily located within the Community Services and Infrastructure Element and focus on the following areas: complying with California statewide waste reduction mandates, promoting the use of recycling and recycled materials in development projects, and promoting the use of recycling and recycled materials in City operations (GP 2030 p. 7-32 and 33).

It is estimated the 100 new employees of the Project will generate approximately 1,000 pounds or 0.55 tons of waste per day based on an average rate of 11.1 pounds per employee (light industrial) per day (CIWMB 2020). Solid waste from the Hemet area is disposed of mainly at the Lamb Canyon Landfill which is operated by Riverside County. The landfill has a daily capacity of 3,000 tons per day and an estimated maximum capacity of 13.53 million tons and a remaining life of over 20 years (https://www.rcwaste.org/landfill/lambcanyon). The estimated daily waste that will be generated by the Project represents approximately 0.02 percent of the Lamb Canyon daily capacity. Therefore, the Project will not 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. Impacts are **less than significant,** and no mitigation is required.

e) Less Than Significant Impact. The City operates a number of residential and non-residential solid waste plans and programs. New businesses such as the proposed Project will be required to comply with non-residential waste management programs. The Project will also have to comply with other applicable federal, state, and local solid waste management and reduction statutes and regulations such as: builders must recycle and or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with the 2019 California Green Building Standards Code; AB 341 requires that all businesses that generate 4 or more cubic yards of waste per week must make arrangements for recycling collection services with CR&R or donate, sell and/or self-haul their recyclables to a recycling facility; and AB 1826 which requires all businesses that generate 4 or more cubic yards of waste per week must make arrangements for organics collection services with CR&R or donate, sell and/or self-haul their recyclables and organics to a recycling facility. With this regulatory compliance, impacts will be **less than significant**, and no mitigation is required.

<u>Mitigation Measures</u>

None required.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, will the project:				
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?	☐	☐	☐	☑

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☑

Sources

City of Hemet. *City of Hemet General Plan Environmental Impact Report* State Clearinghouse #2010061088. January 12, 2012.

City of Hemet. *City of Hemet General Plan 2030*. Adopted January 24, 2012.

Explanation of Checklist Responses

a) No Impact. According to the General Plan, the Project site is not located within a Wildland Fire Hazard Severity Zone, a Federal Responsibility Area, or a State Responsibility Area for wildfire protection (Fig. 6.4, 2030 GP). The Project will take access from a major existing roadway (i.e., State Street) which provides both local and regional access. State Street and the surrounding roadways interconnect and are part of an adopted emergency response plan/emergency evacuation plan, as implemented by the City of Hemet. The Project will be constructing a light industrial complex of office and warehouse buildings as well as roadway and utility connections. A limited potential exists to interfere with an emergency response or evacuation plan during construction if access along State Street were restricted. Control of access will ensure emergency access to the site and Project area during construction through the submittal and approval of a Traffic Management Plan. As part of the plan review process, the City will require the developer to submit a Traffic Management Plan that will provide appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. This is a standard condition of approval and not considered unique project mitigation under CEQA. Following construction, emergency access to the Project site and area will be via State Street. Therefore, implementation of the Project will not substantially impair an adopted emergency response plan or emergency evacuation plan. There will be **no impact** in this regard.

b) No Impact. The Project site is not located within either a fire responsibility area or a fire hazard area. The Project site topography is relatively flat although a shallow drainage channel crosses the center of the site from southeast to northwest. Onsite drainage is currently by sheet flow toward the onsite channel. The Project site is an area of the City with mixed land uses (residential, commercial, light industrial) with scattered vacant land. The buildings and improvements proposed for the Project site will be similar in type and scale to light industrial uses in the surrounding area and the site is designated for such uses in the General Plan.

The Hemet area does experience periodic winds sometimes in excess of 30 miles per hour at certain times of the year. However, the site is relatively flat and has a small drainage channel crossing it although the channel does not generally support extensive vegetation that could become a wildfire hazard. The Project site is currently vacant and has a sparce weedy vegetation due to regular weed abatement for fire protection.

The Project will be constructed in accordance with the 2016 CBC, including Chapter 7 of the CBC, which requires all on-site structures to incorporate construction techniques and materials such as roofs, eaves, exterior walls, vents, appendages, windows, and doors hardened to provide resistance to and/or to perform at high levels against ignition during the exposure to burning vegetation from wildfires. The City reviews all proposed development to ensure compliance with applicable provisions of its Development Code, the Uniform Fire Code, California Fire Code, and California Uniform Building Code requirements. The City's Fire Department shall review the Project and require the necessary code requirements in order to reduce any potential wildland fire hazard impacts to a less than significant level. This is a standard condition and not considered unique mitigation under CEQA.

Based on this information, the Project will not, 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. here will be **no impact** in this regard.

c) No Impact. The Project site is not located within either a fire responsibility area or a fire hazard area. The Project does not include and or 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. Site adjacent improvements to State Street and onsite utilities will be installed in accordance with the respective agency or company requirements. Therefore, there will be **no impact** in this regard.

d) No Impact. The Project site is not located within either a fire responsibility area or a fire hazard area. The Project site topography is relatively flat although a shallow unimproved drainage channel crosses the center of the site from southeast to northwest. Onsite drainage is currently by sheet flow toward the onsite channel. The Project proposes a detention basin in the north-central portion of the site that will prevent an increase in downstream runoff as a result of developing over half the site with impervious surfaces (i.e., buildings, parking and drive areas, product storage areas, etc.). The Project will include hardscape and landscape improvements that will serve to stabilize the built environment. Based on this information, the Project will not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. There will be no impact in this regard.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☑	☐	☐
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 will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☑	☐	☐

Explanation of Checklist Responses

a) Less Than Significant with Mitigation Incorporated. Section IV evaluated potential impacts to biological resources from development of the Project and found all impacts were less than significant with implementation of mitigation for burrowing owl and nesting birds **(BIO-1 and BIO-2)**. In addition, Section V found no impacts to historical resources (site is completely vacant) and potential impacts to cultural resources were reduced to less than significant levels by implementation of mitigation **(CUL-1 through CUL-5).** Section XVIII also examined potential impacts to tribal cultural resources and recommended similar mitigation (CUL-1 through CUL-5). Therefore, implementation of the proposed Project will not substantially degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife populations to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or 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. All impacts to these environmental issues were found to be less than significant with mitigation incorporated.

b) Less Than Significant with Mitigation Incorporated. The analysis in Sections I through XX demonstrate that the Project will not have any impacts which are individually limited but cumulatively considerable. Any impacts will be less than significant with the incorporation of the 13 mitigation measures listed below and standard conditions of approval.

c) Less Than Significant with Mitigation Incorporated. As demonstrated in Sections I through XX of this Initial Study, the proposed Project does not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly with the incorporation of the 13 mitigation measures listed below and standard conditions of approval. All impacts will be less than significant with the incorporation of mitigation measures and standard conditions.

<u>All Mitigation Measures</u>

BIO-1	Pre-Construction Burrowing Owl Survey
BIO-2	Pre-Construction Nesting Bird Survey
CUL-1	Conduct Archaeological Monitoring
CUL-2	Cultural Resource Management Plan
CUL-3	Tribal Monitoring
CUL-4	Inadvertent Discoveries
CUL-5	Discovery of Human Remains
GEO-1	Seismic Building Code Compliance
GEO-2	Paleontological Training for Construction
GEO-3	Paleontological Monitoring
GEO-4	Paleontological Resource Treatment Plan
GEO-5	Paleo Completion Report
HWQ-1	Hydrology Study
HWQ-2	Storm Water Pollution Prevention Plan
HWQ-3	Water Quality Management Plan

DETERMINATION:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

X 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.

Signature	9/9/2020 Date
Monique Alaniz-Flejter, Senior Planner Printed Name and Title	City of Hemet, California

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Memo

To: H.P. Kang, City of Hemet

CC: John Rowland and Lucy Martinez, S2A Modular, and Kent Norton, MIG

From: Chris Dugan and Phil Gleason

Date: June 19, 2020

SUBJECT: Air Quality, Greenhouse Gas, and Energy Analyses for S2A Modular Factory Project

MIG, Inc. (MIG) has prepared this memorandum at the request of the City of Hemet. This memorandum estimates the potential air quality and greenhouse gas (GHG) emissions, as well as potential energy consumption, for the proposed S2A Modular Factory Project (proposed Project) and evaluates project emissions against applicable South Coast Air Quality Management District (SCAQMD)-recommended California Environmental Quality Act (CEQA) significance thresholds.

PROJECT DESCRIPTION

The proposed Project would involve the development of a new, zero-net energy (ZNE) Tesla-powered modular smart home factory with a showroom and model display area on approximately 32.1 acres. The Project site is located at 1321 and 1255 North State Street, between West Esplanade Avenue and Crows Nest Place, in the City of Hemet. The site encompasses three parcels (APN# 439-030-009, 439-030-010, & 439-040-023). The Project site is currently undeveloped and is bordered by light industrial land uses to the north, undeveloped land to the east, a storage facility to the southeast, the Desert Sky RV Park to the southwest, and single-family, ranch-style homes to the west.

Construction of the proposed Project would take place over approximately one year, with development occurring over two, distinct phases:

- **Phase 1 (August 2020 to January 2021; 6 months)**
  - Building A (4,959 square feet for offices / showroom)
  - Building B (101,355 square feet for residential plant)
  - Building E (12,000 square feet for hemp dry wall mud research and development)
  - Two (2) showroom example modular homes
- **Phase 2 (April 2021 to August 2021; 5 months)**
  - Building C (101,355 square feet for commercial plant)
  - Building D (12,000 square feet for hemp stucco/panels research and development)
  - Three (3) showroom example modular homes

In total, there would be 231,669 square feet of building space at the site once Project construction has been completed. Please see Attachment 1 for the Project's plot plan.

Although the site is approximately 32.1 acres, only 21 acres of the site would be disturbed during earthmoving activities. Cut and fill would be balanced on site (i.e., no import or export of soils) (SAKE Engineers, 2020). Construction of the proposed Project would also include approximately 483,586 square feet of hardscape (e.g., roads and parking).

As described previously, the proposed Project would operate as a ZNE facility. Solar panels located east of Building C and between Building B and the modular home village would offset the electricity consumption on-site. On-site equipment (e.g., forklifts and golf cart used to transport merchandise and staff/customers, respectively) would be all electric. Modular homes would be exported from the site using Tesla-powered trucks (i.e., fully electric; powered by a rechargeable battery), and the facility would include two Tesla truck charging stations and 10 charging stations for cars. Operational activities at the facility would generally take place from 7AM to 5PM on a daily basis, with the showroom potentially being open slightly later to accommodate clients/customers.

The proposed Project's air quality, GHG, and energy impacts are evaluated below.

AIR QUALITY ANALYSIS

The proposed Project is located within the South Coast Air Basin (Basin), where efforts to attain state and federal air quality standards are governed by the SCAQMD. Both the State of California and the federal government have established health-based ambient air quality standards (AAQS) for seven air pollutants (known as criteria pollutants). These pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), inhalable particulate matter with a diameter of 10 microns or less (PM_{10}), fine particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$), and lead (Pb). The state has also established AAQS for additional pollutants. The AAQS are designed to protect the health and welfare of the populace within a reasonable margin of safety. Where the state and federal standards differ, California AAQS (CAAQS) are more stringent than the national AAQS (NAAQS). The U.S. Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and the SCAQMD assess the air quality of an area by measuring and monitoring the amount of pollutants in the ambient air and comparing pollutant levels against NAAQS and CAAQS. Based on these comparisons, regions are classified into one of the following categories:

- **Attainment.** A region is "in attainment" if monitoring shows ambient concentrations of a specific pollutant are less than or equal to NAAQS or CAAQS. In addition, an area that has been re-designated from nonattainment to attainment is classified as a "maintenance area" for 10 years to ensure that the air quality improvements are sustained.
- **Nonattainment.** If the NAAQS or CAAQS are exceeded for a pollutant, the region is designated as nonattainment for that pollutant. It is important to note that some NAAQS and CAAQS require multiple exceedances of the standard in order for a region to be classified as nonattainment. Federal and state laws require nonattainment areas to develop strategies, plans, and control measures to reduce pollutant concentrations to levels that meet, or attain, standards.
- **Unclassified.** An area is unclassified if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

Air pollution levels are measured at monitoring stations located throughout the Basin. Table 1, *South Coast Air Basin Attainment Status*, summarizes the Basin's attainment status for the NAAQS and CAAQS.

Table 1: South Coast Air Basin Attainment Status

Pollutant	Attainment Status[A]	
	NAAQS	CAAQS
O_3 (1-hr)	Nonattainment	Nonattainment
O_3 (8-hr)	Nonattainment	Nonattainment
PM_{10} (24-hr and Annual)	Attainment	Nonattainment
$PM_{2.5}$ (24-hr)	Nonattainment	--
$PM_{2.5}$ (Annual)	Nonattainment	Nonattainment
CO	Attainment (Maintenance)	Attainment
NO_2 (1-hr)	Attainment	Attainment
NO_2 (Annual)	Attainment (Maintenance)	Attainment
SO_2	Attainment	Attainment
Lead	Partial Nonattainment	Attainment
Visibility Reducing Particles	--	Unclassified
SO_4	--	Attainment
H_2S	--	Attainment

Source: SCAQMD, 2018

(A) This table summarizes the Basin's attainments status for the NAAQS and CAAQS (as of September 2018). This table does not prevent comprehensive information regarding the CAAQS and NAAQS. Each CAAQS and NAAQS has its own averaging time, standard unit of measurement, measurement method, and statistical test for determining if a specific standard has been exceeded. Refer to the table source for detailed information on the NAAQS and CAAQS.

The proposed Project would generate both short-term construction emissions and long-term operational emissions. The SCAQMD adopts rules that establish permissible air pollutant emissions levels for a variety of business, processes, operations, and products to subject to Federal and State air quality requirements. In general, the proposed Project and its potential emissions sources would be subject to the following State and SCAQMD rules:

- **SCAQMD Rule 401 (Visible Emissions)** prohibits discharge into the atmosphere from any single source of emission for any contaminant for a period or periods aggregating more than three minutes in any one hour that is as dark or darker in shade than that designated as No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.

- **SCAQMD Rule 402 (Nuisance)** prohibits discharges of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

- **SCAQMD Rule 403 (Fugitive Dust)** prohibits emissions of fugitive dust from any grading activity, storage pile, or other disturbed surface area if it crosses the project property line or if emissions caused by vehicle movement cause substantial impairment of visibility (defined as exceeding 20 percent capacity in the air). Rule 403 requires the implementation of Best Available Control Measures and includes additional provisions for projects disturbing more than five acres and those disturbing more than fifty acres.

- **SCAQMD Rule 1108 (Cutback Asphalt)** prohibits the sale or use of any cutback asphalt containing more than 0.5 percent by volume organic compounds which evaporate at 260°C (500°F) or lower.

- **Rule 1113 (Architectural Coatings)** establishes maximum concentrations of VOCs in paints and other applications and establishes the thresholds for low-VOC coatings.

- **Rule 1143 (Consumer Paint Thinners and Multi-Purpose Solvents)** prohibits the supply, sale, manufacture, blend, package or repackage of any consumer paint thinner or multi-purpose solvent for use in the District unless consumer paint thinners or other multi-purpose solvents comply with applicable VOC content limits.

These SCAQMD rules would serve to limit and control the proposed Project's potential to emit air pollutants. As described in more detail below, the proposed Project would not generate short-term or long-term emissions that exceed SCAQMD-recommended pollutant thresholds.

Regional Construction and Operational Emissions

The proposed Project involves the construction of a new, Tesla-powered modular smart home factory. Phases 1 and 2 would involve the development of approximately 118,314 and 113,355 square feet of building space, respectively. Project construction would also involve paving of approximately 483,586 square feet of asphalt / other hardscape surfaces. For the purposes of this analysis, it was assumed 80% of paving would occur during Phase 1 (i.e., 386,869 square feet) and the remaining 20% would occur during Phase 2 (i.e., 96,717 square feet). Construction activities for both phases would include grading, vertical building development, paving, and architectural coating work. It is assumed site preparation work (e.g., removal of vegetation) would take place during the grading phases.

The proposed Project's potential construction emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version (V.) 2016.3.2. Construction phase and duration and the type and amount of equipment used during construction were generated using CalEEMod default assumptions and modified as necessary to reflect the following project-specific context, information, and details:

- For Phase 1, the duration of the grading, building construction, paving and architectural coating phases were reduced to reflect a more intensive development timeline envisioned by the Project Applicant than assumed by CalEEMod defaults. The quantity and runtime of heavy-duty off-road equipment (e.g., loaders, excavators, forklifts) were scaled upward to reflect additional equipment operation during the compressed construction schedule. Similarly, construction worker and vendor trips were scaled upwards, too.
- For Phase 2, the duration of the building construction phase was reduced to reflect a more intensive development timeline envisioned by the Project Applicant than assumed by CalEEMod defaults. Consistent with the approach described for Phase 1, off-road equipment as well as worker and vendor trips were scaled upward to reflect a more intense schedule.
- Fugitive dust control measures were incorporated into the model consistent with requirements contained in SCAQMD Rule 403, Fugitive Dust.
- Limitations for VOC content of architectural coatings were incorporated into the model consistent with the requirements contained in SCAQMD Rule 1113, Architectural Coatings.

The proposed Project's maximum daily unmitigated construction emissions are shown in Table 2, *Unmitigated Maximum Daily Regional Construction Emissions*. Please refer to Attachment 2 for CalEEMod output files and detailed construction emissions assumptions.

Table 2: Unmitigated Maximum Daily Regional Construction Emissions						
Construction Season	Maximum Pollutant Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Phase 1						
Summer 2020	11.7	96.7	91.8	0.2	13.9	6.4
Winter 2020	11.7	96.6	87.2	0.2	13.9	6.4
Summer 2021	66.4	23.7	28.8	<0.0(A)	0.2	1.3
Winter 2021	66.4	23.7	28.4	<0.0(A)	1.9	1.3
Phase 2						
Summer 2021	27.9	73.0	71.4	0.2	7.4	4.3
Winter 2021	27.9	72.9	69.6	0.2	7.4	4.3
SCAQMD Regional Threshold(A)	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	***No***	***No***	***No***	***No***	***No***	***No***
Source: MIG, 2020 (See Attachment 2) and SCAQMD, 2020. Notes: (A) <0.0 does not mean zero; rather, it means less than 0.05, but greater than zero.						

As shown in Table 2, the proposed Project's maximum daily, unmitigated, construction criteria air pollutant emissions would be well below the SCAQMD's recommended regional pollutant thresholds. Project construction, therefore, would not generate criteria air pollutant emissions levels that exceed SCAQMD regional CEQA thresholds.

Once operational, the proposed Project would generate long-term emissions from the following sources:

- **"Area" Sources.** The proposed Project would generate emissions from small area sources, including landscaping equipment, the use of consumer products (e.g., paints, cleaners, and fertilizers) that result in the evaporation of chemicals into the atmosphere during product use.
- **Mobile Sources.** The proposed Project would generate emissions from vehicles traveling to and from the project site.

The proposed Project's operational emissions were also estimated using CalEEMod, V. 2016.3.2. The modeling is based on the project's first full year of operations (assumed to be 2021), using default data assumptions generated by CalEEMod, modified as necessary to reflect the following project-specific context, information, and details:

- Project-specific land use information (i.e., lot acreage, building square footage, etc.) was applied to the model; and
- CalEEMod default weekday trip generation rates were replaced with the trip generation information (983 trips per day) contained in the Traffic Impact Analysis (TIA) prepared for the proposed Project (Ganddini Group, Inc. 2019).

The proposed Project's maximum daily unmitigated operational emissions are shown in Table 3, *Unmitigated Maximum Daily Regional Operational Emissions*. Please refer to Attachment 2 for CalEEMod output files and detailed construction emissions assumptions.

Table 3: Unmitigated Maximum Daily Regional Operational Emissions

Emissions Source	Maximum Daily Pollutant Emission (Pounds Per Day)(A)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area Sources	5.4	<0.0(B)	0.1	<0.0(B)	<0.0(B)	<0.0(B)
Energy Demand(C)	0.0	0.0	0.0	0.0	0.0	0.0
Mobile Sources	2.0	17.1	29.4	0.1	8.8	2.5
Total Daily Emissions(D)	7.4	17.1	29.5	0.1	8.8	2.5
SCAQMD Regional Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	***No***	***No***	***No***	***No***	***No***	***No***

Source: MIG, 2020 (See Attachment 2) and SCAQMD, 2020.

(A) Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. Maximum daily ROG, CO, SO_X emissions occur during the summer. Maximum daily NO_X emissions occur during the winter. In general, due to rounding, there is no difference between summer and winter PM_{10} and $PM_{2.5}$ emissions levels for the purposes of this table.

(B) "<0.0" does not mean emissions are zero; rather, it means emissions are less than 0.01 but greater than 0.

(C) The proposed Project would be a ZNE facility and therefore would offset any emissions associated with energy consumption though the generation of onsite renewable electricity.

(D) Totals may not equal due to rounding.

As shown in Table 3, the proposed Project's maximum daily, unmitigated, operational criteria air pollutant emissions would be well below the SCAQMD's-recommended regional pollutant thresholds. Project operation, therefore, would not generate criteria air pollutant emissions levels that exceed SCAQMD regional CEQA thresholds. This impact would be less than significant.

Localized Construction and Operational Emissions

In addition to regional CEQA thresholds, the SCAQMD has also developed Local Significance Thresholds (LSTs) that represent the maximum emissions from a project that are expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards, which would result in significant adverse localized air quality impacts.

The project's maximum daily construction emissions are compared against the SCAQMD's-recommended LSTs thresholds in Table 4, *Local Significance Threshold (LST) Construction Analysis*. Consistent with the SCAQMD's LST methodology, the emissions included in the construction LST analysis are on-site emissions only, and the LST against which these on-site emissions are compared are based on the project size, in acres. The LST thresholds are for source receptor area (SRA) 28, the SRA in which the proposed Project is located, and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance thresholds recommended for use by the SCAQMD. The construction LSTs are provided for 1-, 2-, and 5-acre project sizes. Although the proposed Project would be much larger than 5 acres, this analysis conservatively uses the 5-acre LST values for evaluation purposes.

Table 4: Local Significance Threshold Construction Analysis

Construction Phase(A, B)	Maximum Pollutant Emissions (Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 1				
Grading 2020	71.5	45.5	7.9	4.8
Building Construction 2020	65.4	57.3	3.8	3.6
Paving 2021	23.6	26.7	1.2	1.1
Architectural Coating 2021	3.1	3.6	0.2	0.2
Phase 2				
Grading 2021	24.7	15.9	3.7	2.4
Building Construction 2021	61.6	58.6	3.4	3.2
Paving 2021	10.8	12.3	0.6	0.5
Architectural Coating 2021	1.5	1.8	0.1	0.1
SCAQMD LST Threshold(C)	**371**	**1,965**	**13**	**8**
Exceeds Threshold?	***No***	***No***	***No***	***No***

Source: MIG, 2020 (See Attachment 2) and SCAQMD, 2009.
(A) Emissions estimated using CalEEMod, v. 2016.3.2. Estimates are based on default model assumptions unless otherwise noted in this document.
(B) Emissions presented are worst-case emissions and may reflect summer or winter emission levels. In general, due to rounding, there is no difference between summer and winter emission levels for the purposes of this table.
(C) The LSTs are based on 5.0-acre project size and 25-meter receptor distance.

As shown in Table 4, the proposed Project's construction emissions would not exceed the SCAQMD's recommended construction LSTs. Project construction, therefore, would not generate criteria air pollutant emissions levels that exceed SCAQMD local CEQA thresholds.

Typically, operations related LSTs become a concern when there are substantial on-site stationary or on-site mobile sources (e.g., heavy duty or idling trucks) that could impact surrounding receptors. This is not the case for the proposed Project, however, since the Project would utilize all electric equipment, including Tesla-powered trucks for product delivery. As such, an operational LST analysis has not been conducted for the proposed Project.

Sensitive Air Quality Receptors/Health Risks

The SCAQMD identifies sensitive receptors as populations more susceptible to the effects of air pollution than the general population. Some people are more affected by air pollution than others. Sensitive air quality receptors include specific subsets of the general population that are susceptible to poor air quality and the potential adverse health effects associated with poor air quality. Both CARB and the SCAQMD consider residences, schools, parks and playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes to be sensitive air quality land uses and receptors (SCAQMD 2017a; CARB 2005). The potential sensitive air quality receptors adjacent or in close proximity to the perimeter of the Project area (i.e., within 1,000 feet) include:

- The single-family, ranch-style homes immediately west of the Project site;
- Residences in the Desert Sky RV Park, immediately southwest of the Project site; and

- Park receptors at the Searl Youth Sports Park, approximately 915 feet southeast of the Project site.

In addition to criteria air pollutants, the U.S. EPA and CARB have classified certain pollutants as Hazardous Air Pollutants (HAPs) or Toxic Air Contaminants by the U.S. EPA and CARB, respectively. These pollutants can cause severe health effects at very low concentrations (non-cancer effects), and many are suspected or confirmed carcinogens (i.e., can cause cancer). People exposed to HAPs/TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and/or other health problems.

A portion of the PM_{10} and $PM_{2.5}$ emissions generated during construction of the project would be diesel particulate matter, or DPM, a known TAC. The proposed Project's construction activities would not expose adjacent residential receptors to substantial levels of DPM that would pose a substantial adverse health risk for several reasons. First, the proposed Project does not involve substantial earthmoving or grading activities that would require large amounts of heavy-duty equipment associated with the highest DPM emissions. Second, the majority of Project construction would be located toward the middle-to-northern portions of the Project site, which would give pollutants additional time and space to disperse with the prevailing winds that are generally from the north-northwest and south-southeast (i.e., toward land uses that are not considered to be sensitive). Finally, potential long-term adverse health risks from DPM are evaluated assuming a constant exposure to emissions over a 70-year lifetime, 24 hours a day, seven days a week, with increased risks generally associated with increased proximity to emissions sources. Since construction activities would only generate DPM emissions on an intermittent, short-term basis (i.e., approximately one year), DPM emissions from construction activities would be unlikely to result in adverse health effects to existing sensitive receptors that exceed the SCAQMD's significance criteria.[1] This impact would be less than significant.

Conflict with or Obstruct Implementation of the Applicable Air Quality Plan

A project that conflicts with or obstructs the implementation of the South Coast Air Quality Management District's (SCAQMD) South Coast Air Basin 2016 Air Quality Management Plan (AQMP) could hinder implementation of the AQMP, delay efforts to meet attainment deadlines, and/or interfere with SCAQMD efforts to maintain compliance with, and attainment of, applicable air quality standards. Pursuant to the methodology provided in Chapter 12 of the SCAQMD *CEQA Air Quality Handbook*, consistency with the AQMP is affirmed if the project (SCAQMD, 1993):

1) Is consistent with the growth assumptions in the AQMP; and
2) Does not increase the frequency or severity of an air quality standards violation or cause a new one.

The proposed Project would induce employment growth; however, the number of jobs added to the City would be well within the growth assumptions for Hemet accounted for in the 2016 RTP/SCS (i.e., the 2016 RTP/SCS accounted for the grow of 24,500 new jobs in Hemet between 2012 and 2040; SCAG, 2016). Therefore, it would not conflict with the first consistency criterion. As described in the preceding analysis, the proposed Project would not exceed the

[1] The SCAQMD has established the following thresholds of significance for projects that generate TAC emissions: Maximum Incremental Cancer Risk ≥ 10 in 1 million; Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million); Chronic & Acute Hazard Index ≥ 1.0 (project increment) (SCAQMD, 2019).

construction or operational air quality thresholds maintained by the SCAQMD. Accordingly, the proposed Project would not conflict with or obstruct implementation of the SCAQMD 2016 AQMP (SCAQMD, 2017b). This impact would be less than significant.

Odors

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills. Implementation of the proposed Project may result in short-term odors during construction associated with fueling and fuel combustion; however, these odors would be quick to disperse and would not affect a substantial number of people. This impact would be less than significant.

GHG ANALYSIS

Gases that trap heat in the atmosphere and affect regulation of the Earth's temperature are known as GHGs. GHG that contribute to climate change are a different type of pollutant than criteria or hazardous air pollutants because climate change is global in scale, both in terms of causes and effects. Some GHG are emitted to the atmosphere naturally by biological and geological processes such as evaporation (water vapor), aerobic respiration (carbon dioxide), and off-gassing from low oxygen environments such as swamps or exposed permafrost (methane); however, GHG emissions from human activities such as fuel combustion (e.g., carbon dioxide) and refrigerants use (e.g., hydrofluorocarbons) significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change. The 1997 United Nations' Kyoto Protocol international treaty set targets for reductions in emissions of four specific GHGs – carbon dioxide, methane, nitrous oxide, and sulfur hexafluoride – and two groups of gases – hydrofluorocarbons and perfluorocarbons. These GHG are the primary GHG emitted into the atmosphere by human activities. The six most common GHG's are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride, hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

GHG emissions from human activities contribute to overall GHG concentrations in the atmosphere and the corresponding effects of global climate change (e.g., rising temperatures, increased severe weather events such as drought and flooding). GHGs can remain in the atmosphere long after they are emitted. The potential for a GHG to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHGs by their GWP determines their carbon dioxide equivalent (CO_2e), which enables a project's combined global warming potential to be expressed in terms of mass CO_2 emissions (referred to as CO_2 equivalents, or CO_2e).

In order to provide guidance to local lead agencies on determining the significance of GHG emissions in their CEQA documents, the SCAQMD convened the first GHG Significance Threshold Working Group (Working Group) meeting on April 30, 2008. To date, the Working Group has convened a total of 15 times, with the last meeting taking place on September 28, 2010. Based on the last Working Group meeting, the SCAQMD identified an interim, tiered approach for evaluating GHG emissions intent on capturing 90 percent of development projects where the SCAQMD is not the lead agency. The following describes the basic structure of the SCAQMD's tiered, interim GHG significance thresholds (SCAQMD, 2010):

- Tier 1 consists of evaluating whether or not the project qualifies for applicable CEQA exemptions.
- Tier 2 consists of determining whether or not a project is consistent with a greenhouse gas reduction plan. If a project is consistent with a greenhouse gas reduction plan, it would not have a significant impact.
- Tier 3 consists of using screening values at the discretion of the Lead Agency; however, the Lead Agency should be consistent for all projects within its jurisdiction. The following thresholds were proposed for consideration:
  - 3,000 $MTCO_2e$ per year for all land use types; or
  - 3,500 $MTCO_2e$ per year for residential; 1,400 $MTCO_2e$ per year for commercial; 3,000 $MTCO_2e$ per year for mixed use projects.
- Tier 4 has three options for projects that exceed the screening values identified in Tier 3:
  - Option 1: Reduce emissions from business-as-usual by a certain percentage (currently undefined); or
  - Option 2: Early implementation of applicable AB 32 Scoping Measures; or
  - Option 3: For plan-level analyses, analyze a project's emissions against an efficiency value of 6.6 $MTCO_2e$/year/service population by 2020 and 4.1 $MTCO_2e$/year/service population by 2035. For project-level analyses, analyze a project's emissions against an efficiency value of 4.8 and 3.0 $MTCO_2e$/year/service population for the 2020 and 2035 calendar years, respectively.

This analysis conservatively uses the SCAQMD's interim Tier 3 GHG threshold to evaluate the proposed Project's GHG emissions levels.

GHG Emissions

The proposed Project would generate GHG emission from both short-term construction and long-term operational activities. Construction activities would generate GHG emissions primarily from equipment fuel combustion as well as worker, vendor, and haul trips to and from the Project site during demolition, site preparation, grading, building construction, paving, and architectural coating activities. Construction activities would cease to emit GHG upon completion, unlike operational emissions that would be continuous year after year until the project is decommissioned. The SCAQMD recommends amortizing construction GHG emissions over a 30-year period and including with operational emissions estimates. This normalizes construction emissions so that they can be grouped with operational emissions and compared to appropriate thresholds, plans, etc. Once operational, the proposed Project would generate GHG emissions from area, mobile, water/wastewater, and solid waste sources. The proposed Project's construction and operational emissions were estimated CalEEMod, V. 2016.3.2, using the same default assumptions and Project-specific variables applied to the air quality emissions estimates.[2] The proposed Project's total GHG emissions are shown in Table 5, *Project Greenhouse Gas Emissions*.

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[2] CalEEMod does not estimate N_2O emissions; however, in 2016, statewide CO_2 and N_2O emissions for the on-road transportation sector (light duty gasoline vehicles) were 115.4 and 0.005 million metric tons, respectively (N_2O emissions, therefore, would be equal to 0.004% of CO_2 emissions for this sector). N_2O emissions, therefore, are not anticipated to increase the proposed Project's GHG emissions estimates by more than 1% overall and would not materially change this GHG evaluation.

Table 5: Project Greenhouse Gas Emissions

GHG Emissions Source	GHG Emissions (Metric Tons Per Year)
Area	<0.0(A)
Energy	0.0(B)
Mobile	1,834.7
Solid Waste	144.5
Water/Wastewater	296.0
Construction(B)	50.3
Total(C)	2,325.5
SCAQMD Tier 3 Screening Threshold	**3,000**
SCAQMD Tier 3 Threshold Exceeded?	***No***

Source: MIG 2020 (See Attachment 2) and SCAQMD, 2019.
(A) <0.0 does not mean emissions are zero; rather, it means emissions are greater than 0.00, but less than 0.1.
(B) Construction emissions values from Phase 1 and Phase 2 have been summed and averaged over a 30-year assumed project lifetime.
(C) Totals may not equal due to rounding.

As shown in Table 5, the proposed Project's potential increase in GHG emissions would be below the SCAQMD's recommended GHG emissions thresholds, and would likely be lower than the 2,325.5 MTCO$_2$e/yr estimate for a few of reasons. First, the imbedded GHG emissions associated with water/wastewater transport and treatment are based on Southern California Edison's GHG intensity values from 2012. Due to statewide mandates to increase the amount of electricity supplied to consumers from renewable resources, the GHG emissions associated with this source would be lower. Second, the mobile source emissions estimate does not take into account that the Project would utilize Tesla-powered trucks to deliver the modular homes to their final destination. The use of all-electric trucks fueled (i.e., charged) at a ZNE facility in lieu of diesel-powered trucks would reduce the estimated GHG emissions from this source. Finally, the proposed Project would have the added environmental benefit of furthering the implementation of technology that is necessary for the state to meet future GHG emission reduction goals. The modular homes produced at the facility would be built around Tesla Powerwall Technology, which would make each unit electrically self-sustainable. Each structure, once developed, would be connected to the electrical grid as a backup power source, but would otherwise rely on renewable energy generated onsite. In addition, not only would the modular homes be more energy efficient than homes of standard construction, they would also be produced in a facility that is ZNE, thereby reducing the upstream GHG intensity of development as well. The proposed Project would not generate GHG emissions that exceed SCAQMD CEQA thresholds, and would support future GHG-emission reduction goals at the state level. This impact would be less than significant.

Plan Consistency

The proposed Project would not conflict with CARB's Scoping Plan or the Southern California Association of Governments (SCAG) 2016 RTP/SCS. Nearly all the specific measures identified in the 2017 Climate Change Scoping Plan would be implemented at the state level, with CARB and/or another state or regional agency having the primary responsibility for achieving required GHG reductions. The proposed Project, therefore, would not directly conflict with any of the specific measure identified in the 2017 Climate Change Scoping Plan. Similarly, the proposed Project would not conflict with the SCAG 2016 RTP/SCS, because it is within the growth assumptions of the 2016 RTP/SCS, would utilize zero-emission Tesla-trucks to deliver the modular homes, and would provide on-site electric vehicle (EV) charging stations to help facilitate and encourage employees and customers/clients to buy EVs, which would help reduce per capita GHG emissions associated with automobile use. The proposed Project would also facilitate the construction, distribution, and use of extremely energy efficient homes. This impact would be less than significant.

ENERGY ANALYSIS

The proposed Project consists of the development of a new, ZNE facility that would manufacture modular smart homes. Construction activities associated with the proposed Project would require the use of heavy-duty, off-road equipment and construction-related vehicle trips that would combust fuel, primarily diesel and gasoline. Heavy-duty construction equipment would be required to comply with CARB's airborne toxic control measures, which restrict heavy-duty diesel vehicle idling to five minutes. Off-road, heavy-duty equipment (e.g., excavators, loaders, etc.) are anticipated to consume approximately 82,073 gallons of diesel across the two construction phases, and on-road vehicle trips (e.g., construction worker commutes and vendor deliveries) are anticipated to consume 40,280 and 25,294 gallons of gasoline and diesel, respectively (see Attachment 3). Total petroleum fuel consumption during Project construction is estimated to be 40,280 and 107,367 gallons of gasoline and diesel, respectively.

Once operational, the proposed Project would consume energy for vehicle trips (worker commutes and clients/customers), electricity and natural gas usage, and water and wastewater conveyance. As estimated using CalEEMod, the proposed Project would consume approximately 7.5 million British thermal units (MMBTU) of natural gas and 2,351 megawatt-hours (mWh) of electricity per year. These estimates are considered to be particularly conservative, since the Project would be designed to ZNE standards, which typically involves substantially reducing, if not eliminating, natural gas and increasing the efficiency of electricity consuming building systems and equipment. The proposed Project is also estimated to result in a total of approximately 4.0 million annual vehicle miles travelled (VMT) which, based on the average fleet mix and gasoline and diesel fuel fleet efficiency in the Basin, would consume approximately 139,053 and 37,011 gallons of gasoline and diesel, respectively.[3]

Electricity, natural gas, and gasoline fuel consumption are energy sources necessary to operate and maintain the proposed Project in a safe manner. Lighting is essential for safety and security and natural gas consumption is often needed for heating, cooking, and other temperature-controlled activities. As described previously, the proposed Project would be a ZNE facility, which would mean it would implement numerous energy efficiency measures (e.g., heat pump water heaters) and off-site its annual energy consumption through the generation of on-site renewable energy. For mobile sources, the proposed Project would utilize six, Tesla-powered trucks to deliver the modular homes and include 10 on-site EV charging stations. Finally, the modular homes sold at the proposed facility could help reduce energy consumption in new residential developments, since they do not require as much heavy-duty off-road construction equipment to develop at a site and are designed to achieve energy efficiency. For these

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[3] According to the Board of Equalization (BOE), statewide taxable sales figures indicate a total of 15,584 million gallons of gasoline fuel were sold in 2017 (CEC, 2019; CDFTA 2018). Although exact estimates are not available by County, retail fuel outlet survey data indicates Riverside County accounted for approximately 6.8% and 7.4% of total statewide gasoline and diesel sales, respectively (CEC, 2019). Based on CARB's EMFAC2017 web database, the overall average fuel economy for all gasoline and diesel vehicles in the Riverside County (South Coast Air Basin) in year 2021 would be 26.4 and 9.7 miles per gallon, respectively.

reasons, the proposed Project would not result in the wasteful, inefficient, or unnecessary use of energy resources. This impact would be less than significant.

The proposed Project would not conflict with or obstruct a state or local plan adopted for the purposes of increasing the amount of renewable energy or energy efficiency. As discussed above, the proposed Project would meet ZNE standards (exceeding that mandated through by the State through the CalGreen Code) and would implement numerous green features, such as on-site renewable energy generation and the use of Tesla-powered trucks to deliver the modular homes. It would also result in the production, distribution, and use of homes that are more energy efficiency than that required by the CalGreen Code, too. The proposed Project would not conflict with or obstruct a state or local plan for renewable energy. This impact would be less than significant.

CONCLUSION

As described in this memo, the proposed Project would not exceed any applicable SCAQMD-recommended CEQA thresholds of significance and is consistent with all applicable air quality, GHG, and energy plans, policies and regulations adopted for the purposes of reducing air quality impacts, GHG emissions, and/or energy consumption impacts. The proposed Project, therefore, would not result in substantial adverse air quality, GHG, or energy-related effects on the environment.

REFERENCES

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______2009. *Mass Rate LST Lookup Table*. Diamond Bar, CA. October 2009. Available online at: <http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>

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CD / PTG

Attachment 1

SAKE Engineers, Inc. Plot Plan (April 29, 2020)

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CITY OF HEMET
PLOT PLAN

LOT 5 AND PORTION OF LOT 4 OF MESA TERRACE TRACT, IN THE CITY OF HEMET, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 8 PAGE 46 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

SAKE ENGINEERS, INC. **AUGUST 2019**

ZONING AND LAND USE:

EXIST. ZONING ____ COMMERCIAL–MANUFACTURING
PROP. ZONING ____ COMMERCIAL–MANUFACTURING
EXIST. LAND USE ____ VACANT
PROP. LAND USE ____ COMMERCIAL–MANUFACTURING

ASSESSORS PARCEL NO.:

439–030–009, 439–030–010, 439–040–023

TOTAL ACREAGE:

TOTAL ACREAGE (GROSS) ____ 32.1 AC.
DISTRUBED AREA ____ 21 AC.
IMPERVIOUS AREA ____ 16.42 AC.
PERVIOUS AREA ____ 15.68 AC.
TOTAL NO. OF PARKING ____ ~~720~~

EASEMENT NOTES:

1. DECLARATION OF DEDICATION PER INST. NO. 136701 REC. 12/06/1965 O.R.
2. CL OF 10' WIDE EASEMENT IN FAVOR OF SO. CAL EDISON CO. PER INST. NO. 106260 REC. 10/28/1966. O.R.
3. EASEMENT IN FAVOR OF SO. CAL. EDISON CO. PER INST. NO. 46421 REC. 05/29/1967. O.R.
4. 5' WIDE EASEMENT FOR WATER PIPE LINE AND UTILITIES
5. AN EASEMENT IN FAVOR OF CALIFORNIA WATER AND TELEPHONE CO. PER BK. 1604 PG 231 IS NOT, PLOTTABLE FROM THE RECORD.
6. EASEMENT IN FAVOR OF EASTERN MUNICIPAL WATER DISTRICT PER BK. 3726 PG.565–568. O.R.
7. EASEMENT IN FAVOR OF EASTERN MUNICIPAL WATER DISTRICT PER INST. 108484 REC. 06/11/1981.

BUILDING SQUARE FOOTAGE

BUILDING "A"	4,959 S.F.
BUILDING "B"	101,355 S.F.
BUILDING "C"	101,355 S.F.
BUILDING "D"	12,000 S.F.
BUILDING "E"	12,000 S.F.
TOTAL SQUARE FOOTAGE	231,669 S.F.

BUILDING USE

BUILDING "A"	OFFICES/SHOWRROOM
BUILDING "B"	OFFICES/SHOWRROOM
BUILDING "C"	OFFICES
BUILDING "D"	HEMP R & D STUCCO/PANELS
BUILDING "E"	HEMP R & D DRY WALL MUD

BASIS OF ELEVATION:

BM# H 8 3 RESET AT THE SW CORNER OF SEVENTH ST. AND STATE ST.

ELEV = 467.17'

EMERGENCY PHONE NUMBERS:

CITY OF HEMET FIRE DEPARTMENT	(951) 765–2464
CITY OF HEMET POLICE DISPATCH	(951) 765–2400
CITY OF HEMET TRAFFIC SIGNALS	(951) 675–3710
HEMET UNIFIED SCHOOL DISTRICT	(951) 765–5100
UNDERGROUND ALERT SERVICE	811
MISSION AMBULANCE	(951) 654–2746
FRONTIER TELEPHONE	(800) 921–8101
SOUTHERN CALIFORNIA EDISON COMPANY	(800) 655–4555
SOUTHERN CALIFORNIA GAS COMPANY	(800) 427–2200

BASIS OF BEARING:

CALIFORNIA STAE PLANE COORDINATE SYSTEM
ZZONE 6

FLOOD ZONE:

ZONE X, 06065C1488H
EFFECTIVE 4–19–2017

UTILITIES:

ELECTRIC	SO. CAL. EDISON COMPANY (800) 655–4555 PH.
GAS	THE GAS COMPANY (800) 427–2200 PH.
WATER	EMWD (951) 928–3777 PH.
SEWER	EMWD (951) 928–3777 PH.
TELEPHONE	FRONTIER (800) 921–8101 PH.
CABLE	SPECTRUM CABLE (855) 427–0190 PH.

LEGAL DESCRIPTION:

LOT 5 AND PORTION OF LOT 4 OF MESA TERRACE TRACT, IN THE CITY OF HEMET, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 8 PAGE 46 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EARTHWORK:

CUT ____ 0± C.Y.
FILL ____ 0± C.Y.
IMPORT ____ 0± C.Y.

NOTE:

EARTH QUANTITIES SHOWN HERE ARE FOR RAW ESTIMATING PLAN CHECK FEES ONLY. GRADING CONTRACTOR IS RESPONSIBLE TO PERFORM THEIR OWN CALCULATIONS FOR EARTH VOLUME WITH THE SOILS ENGINEER'S RECOMMENDATION.

OWNER/DEVELOPER:

SSS GROUP, A CALIFORNIA PARTNERSHIP
MICHAEL A. GIURBINO AND
SUZANNE E. GIURBINO
MURRIETA, CA 92562
CONTACT: JOHN ROWLAND
(951) 760 4887 PH.
MVPOPTICS@AOL.COM

ENGINEER:

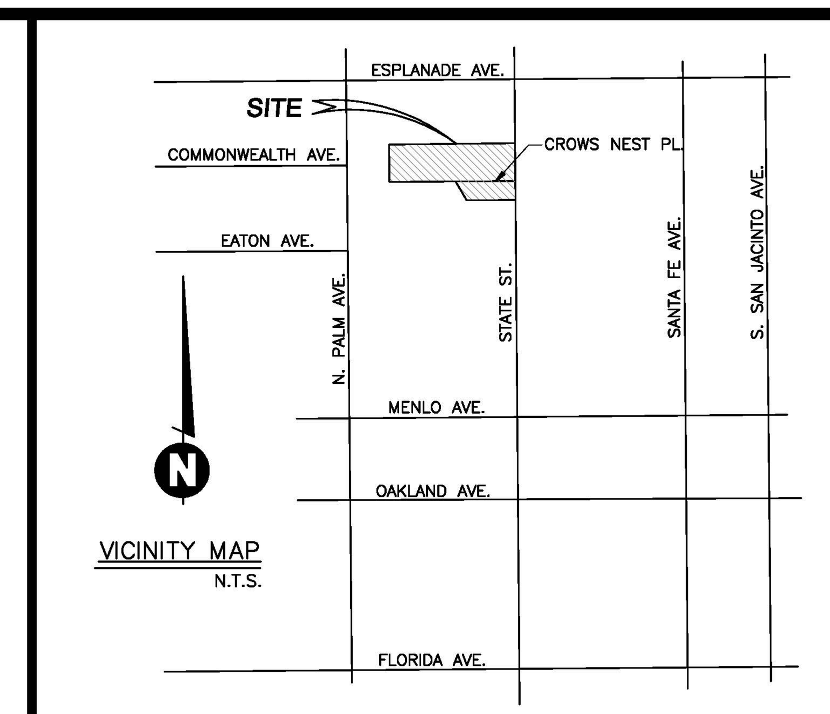
SAKE ENGINEERS INC.
400 S. RAMONA AVE. STE. 202
CORONA, CA 92879
(951) 279–4041 PH.
(951) 279–2830 FAX

SOIL ENGINEER:

SOIL EXPLORATION COMPANY, INC.
7535 JURUPA AVE. UNIT C
RIVERSIDE, CA 92504
(951) 688–7200 PH.
(951) 688–7100 FAX

TOPOGRAPHY:

LANDMARK SURVEYING
14586 CHOKE CHERRY DRIVE
VICTORVILLE, CA 92392
(760) 955–4141 PH.

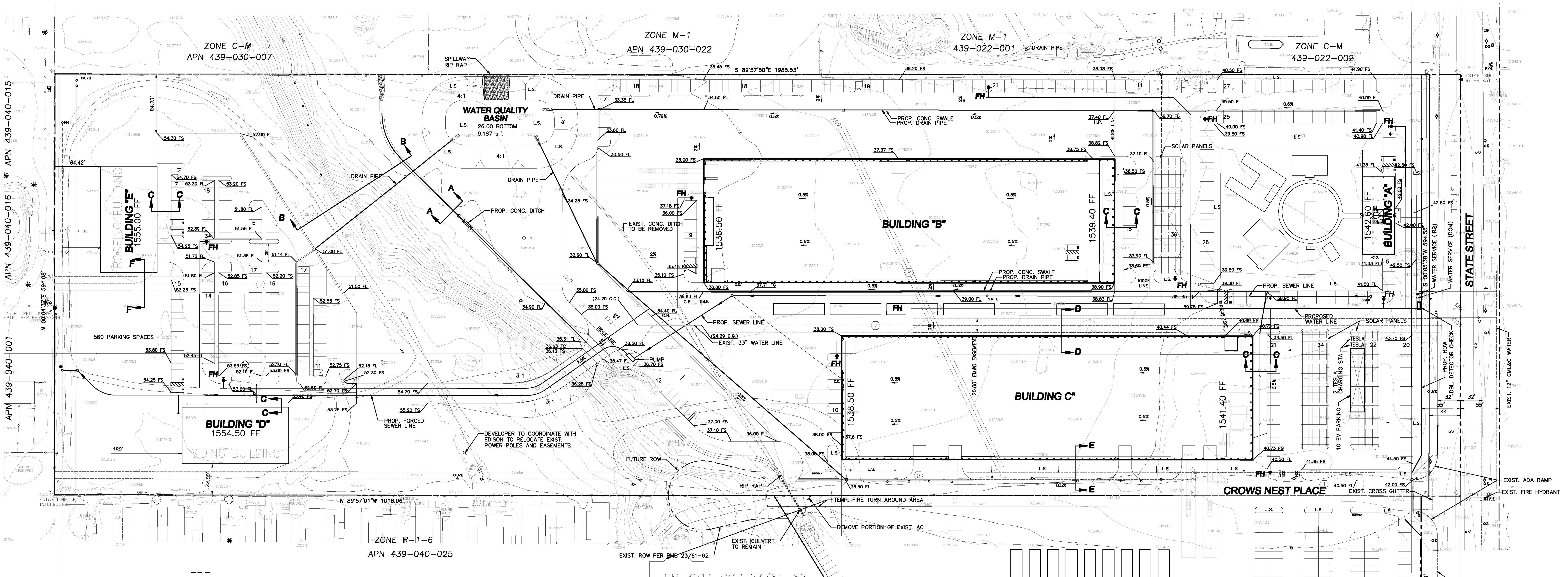


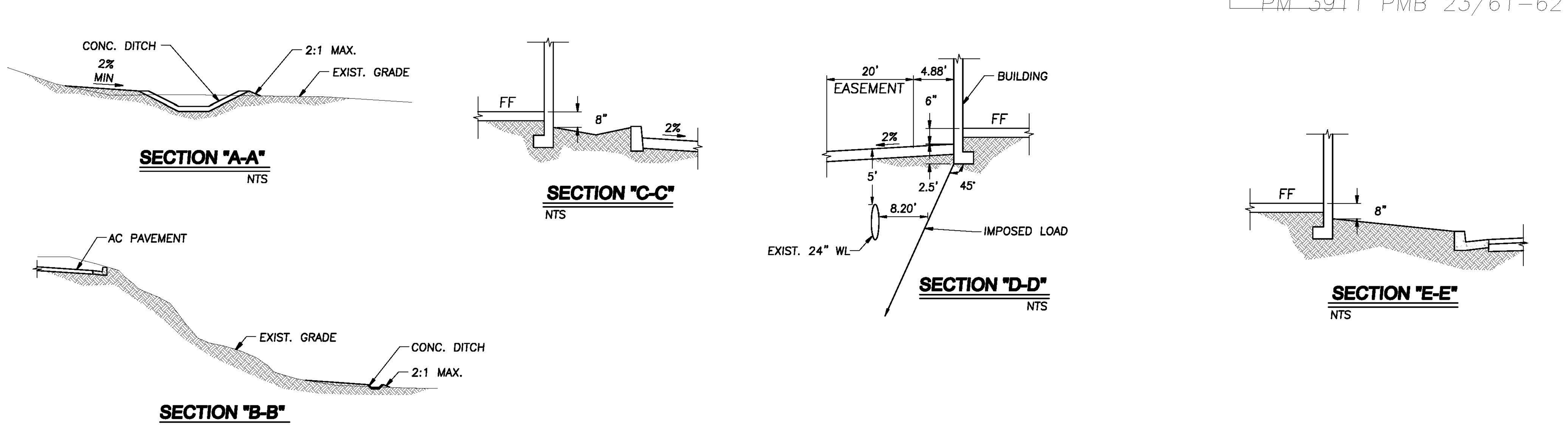
VICINITY MAP
N.T.S.

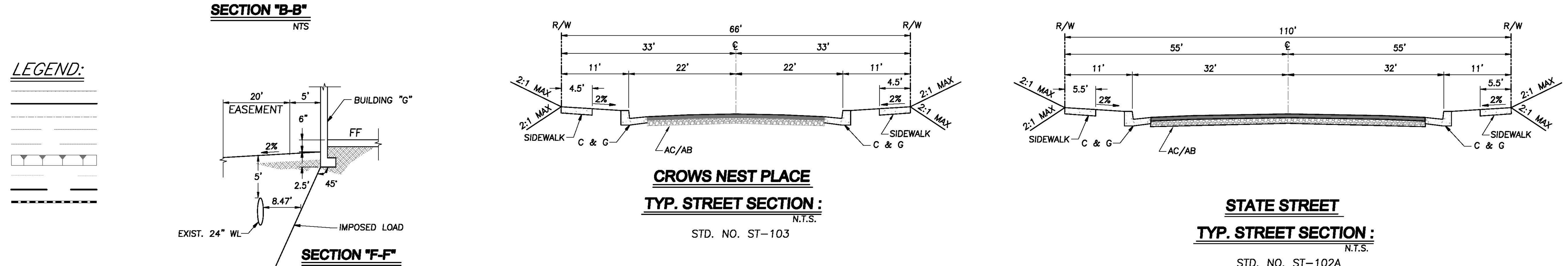
THOMAS BROTHERS MAP PAGE/GRID:

PAGE: 810 GRID: J4 2004 EDITION
PAGE: 811 GRID: A4 2004 EDITION

SEC 3, T.5S, R.1W







SCALE: 1"=50'

PREPARED UNDER THE DIRECTION OF:

REGISTERED PROFESSIONAL ENGINEER SAM AKBARPOUR C053038 CIVIL STATE OF CALIFORNIA

SAM AKBARPOUR P.E. RCE. 053038

REVISIONS	DATE	BY

PLOT PLAN
CITY OF HEMET

SCALE: 1" = 50'	SAKE ENGINEERS, INC. ENGINEERING • SURVEYING • LAND DEVELOPMENT 400 S. RAMONA AVE., STE. 202 CORONA, CALIFORNIA 92879 (951) 279–4041 FAX (951) 279–2830	J.N. 3210
DATE: 4/29/2020		SHEET 1 OF 1 SHEETS
DRAWN: JAC		
DESIGNED: SA		
CHECKED: SA		
PLN CK REF:	FILE: SERVER\PROJECTS\JN3210\CIVIL\PLOTPLAN	DWG. NO.

\\SERVER\projects\CI HEMET\JN3210 John S2A Factory\CIVIL\PLOTPLAN.dwg, 5/22/2020 12:00:04 PM, 1:50

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Attachment 2

CalEEMod Project File Outputs

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Hemet S2A Modular Factory (Phase 1)

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	118.31	1000sqft	2.72	118,314.00	0
Other Asphalt Surfaces	386.87	1000sqft	8.88	386,869.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Phil Gleason

Land Use - Accounts for Building A (4,959sf), Building B (101,335sf), Building E (12,000sf) and 80% of paving (386,869sf)

Construction Phase - Assumes no demo or site prep, since no structures and relatively flat site. 1 mo grading, 4 mo construction, 2 weeks paving, 2 weeks arch coating

Off-road Equipment - Arch Coat - Equipment quantity adjusted to reflect intensified development schedule.

Off-road Equipment - Building Const - Equip quantity and runtime adjusted to reflect intensified dev schedule.

Off-road Equipment -

Off-road Equipment - Grading - Equip quantity and runtime adjusted to reflect intensified dev schedule.

Off-road Equipment - Paving - Equip quantity and runtime adjusted to account for intensified dev schedule.

Off-road Equipment -

Grading -

Architectural Coating - VOC content of arch coating adjusted to reflect compliance with SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - Watering 3x per day to reflect compliance with SCAQMD Rule 403.

Trips and VMT - Worker and vendor trips adjusted upward to reflect intensified dev schedule.

Table Name	Column Name	Default Value	New Value
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tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
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tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	30.00	21.00
tblConstructionPhase	NumDays	300.00	88.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	20.00	10.00
tblLandUse	LandUseSquareFeet	118,310.00	118,314.00
tblLandUse	LandUseSquareFeet	386,870.00	386,869.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	11.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	11.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
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tblOffRoadEquipment	UsageHours	8.00	7.60
tblOffRoadEquipment	UsageHours	8.00	7.40
tblOffRoadEquipment	UsageHours	8.00	6.80
tblOffRoadEquipment	UsageHours	8.00	5.70
tblOffRoadEquipment	UsageHours	8.00	7.30
tblOffRoadEquipment	UsageHours	8.00	7.30
tblOffRoadEquipment	UsageHours	8.00	7.30
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tblOffRoadEquipment	UsageHours	8.00	7.60
tblOffRoadEquipment	UsageHours	8.00	6.80
tblTripsAndVMT	VendorTripNumber	83.00	283.00

tblTripsAndVMT	WorkerTripNumber	33.00	48.00
tblTripsAndVMT	WorkerTripNumber	212.00	723.00
tblTripsAndVMT	WorkerTripNumber	30.00	55.00
tblTripsAndVMT	WorkerTripNumber	42.00	84.00

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					
2020	0.5681	5.0262	4.3656	0.0115	0.5636	0.2094	0.7730	0.1708	0.1963	0.3671	0.0000	1,031.9255	1,031.9255	0.1430	0.0000	1,035.5003
2021	0.3575	0.1470	0.1880	3.3000e-004	7.9400e-003	7.7900e-003	0.0157	2.1100e-003	7.2400e-003	9.3500e-003	0.0000	29.0737	29.0737	6.8300e-003	0.0000	29.2444
Maximum	**0.5681**	**5.0262**	**4.3656**	**0.0115**	**0.5636**	**0.2094**	**0.7730**	**0.1708**	**0.1963**	**0.3671**	**0.0000**	**1,031.9255**	**1,031.9255**	**0.1430**	**0.0000**	**1,035.5003**

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					
2020	0.5681	5.0262	4.3656	0.0115	0.4845	0.2094	0.6938	0.1380	0.1963	0.3343	0.0000	1,031.9249	1,031.9249	0.1430	0.0000	1,035.4998
2021	0.3575	0.1470	0.1880	3.3000e-004	7.9400e-003	7.7900e-003	0.0157	2.1100e-003	7.2400e-003	9.3500e-003	0.0000	29.0737	29.0737	6.8300e-003	0.0000	29.2443
Maximum	**0.5681**	**5.0262**	**4.3656**	**0.0115**	**0.4845**	**0.2094**	**0.6938**	**0.1380**	**0.1963**	**0.3343**	**0.0000**	**1,031.9249**	**1,031.9249**	**0.1430**	**0.0000**	**1,035.4998**

	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**	**13.85**	**0.00**	**10.04**	**18.98**	**0.00**	**8.72**	**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	8-1-2020	10-31-2020	3.2255	3.2255
2	11-1-2020	1-31-2021	2.8088	2.8088
		Highest	3.2255	3.2255

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	0.5134	6.0000e-005	6.4600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0125	0.0125	3.0000e-005	0.0000	0.0134
Energy	0.0207	0.1884	0.1583	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	587.7600	587.7600	0.0197	7.0300e-003	590.3479
Mobile	0.1154	1.0136	1.6113	7.5900e-003	0.6061	5.2700e-003	0.6113	0.1624	4.9300e-003	0.1673	0.0000	703.0915	703.0915	0.0314	0.0000	703.8754
Waste						0.0000	0.0000		0.0000	0.0000	29.7788	0.0000	29.7788	1.7599	0.0000	73.7757
Water						0.0000	0.0000		0.0000	0.0000	8.6798	113.5070	122.1868	0.8962	0.0220	151.1533
Total	**0.6494**	**1.2021**	**1.7761**	**8.7200e-003**	**0.6061**	**0.0196**	**0.6257**	**0.1624**	**0.0193**	**0.1817**	**38.4586**	**1,404.3710**	**1,442.8295**	**2.7072**	**0.0291**	**1,519.1656**

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	0.5134	6.0000e-005	6.4600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0125	0.0125	3.0000e-005	0.0000	0.0134
Energy	0.0207	0.1884	0.1583	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	587.7600	587.7600	0.0197	7.0300e-003	590.3479
Mobile	0.1154	1.0136	1.6113	7.5900e-003	0.6061	5.2700e-003	0.6113	0.1624	4.9300e-003	0.1673	0.0000	703.0915	703.0915	0.0314	0.0000	703.8754
Waste						0.0000	0.0000		0.0000	0.0000	29.7788	0.0000	29.7788	1.7599	0.0000	73.7757
Water						0.0000	0.0000		0.0000	0.0000	8.6798	113.5070	122.1868	0.8962	0.0220	151.1533
Total	**0.6494**	**1.2021**	**1.7761**	**8.7200e-003**	**0.6061**	**0.0196**	**0.6257**	**0.1624**	**0.0193**	**0.1817**	**38.4586**	**1,404.3710**	**1,442.8295**	**2.7072**	**0.0291**	**1,519.1656**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	8/1/2020	7/31/2020	5	0	
2	Site Preparation	Site Preparation	8/1/2020	7/31/2020	5	0	
3	Grading	Grading	8/1/2020	8/31/2020	5	21	
4	Building Construction	Building Construction	9/1/2020	12/31/2020	5	88	
5	Paving	Paving	1/1/2021	1/15/2021	5	11	
6	Architectural Coating	Architectural Coating	1/18/2021	1/29/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 74.81

Acres of Paving: 8.88

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 177,471; Non-Residential Outdoor: 59,157; Striped Parking Area: 23,212 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	3	7.60	158	0.38
Grading	Graders	2	5.70	187	0.41
Grading	Rubber Tired Dozers	2	5.70	247	0.40
Grading	Scrapers	3	7.60	367	0.48
Grading	Tractors/Loaders/Backhoes	3	7.60	97	0.37
Building Construction	Cranes	4	6.00	231	0.29
Building Construction	Forklifts	11	7.40	89	0.20
Building Construction	Generator Sets	4	6.80	84	0.74
Building Construction	Tractors/Loaders/Backhoes	11	6.50	97	0.37
Building Construction	Welders	4	6.80	46	0.45
Paving	Pavers	4	7.30	130	0.42
Paving	Paving Equipment	4	7.30	132	0.36
Paving	Rollers	4	7.30	80	0.38
Architectural Coating	Air Compressors	2	6.00	78	0.48

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
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	13	48.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	34	723.00	283.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	55.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	84.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

<u>Unmitigated Construction On-Site</u>

	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 - 2020

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 - 2020

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 - 2020

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	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
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**

3.3 Site Preparation - 2020

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					
Fugitive Dust	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
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**

3.3 Site Preparation - 2020

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**

3.4 Grading - 2020

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					0.1298	0.0000	0.1298	0.0538	0.0000	0.0538	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0666	0.7511	0.4782	9.3000e-004		0.0325	0.0325		0.0299	0.0299	0.0000	81.5221	81.5221	0.0264	0.0000	82.1813
Total	**0.0666**	**0.7511**	**0.4782**	**9.3000e-004**	**0.1298**	**0.0325**	**0.1623**	**0.0538**	**0.0299**	**0.0837**	**0.0000**	**81.5221**	**81.5221**	**0.0264**	**0.0000**	**82.1813**

3.4 Grading - 2020

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	2.3200e-003	1.6200e-003	0.0173	5.0000e-005	5.5400e-003	3.0000e-005	5.5700e-003	1.4700e-003	3.0000e-005	1.5000e-003	0.0000	4.6348	4.6348	1.2000e-004	0.0000	4.6377
Total	**2.3200e-003**	**1.6200e-003**	**0.0173**	**5.0000e-005**	**5.5400e-003**	**3.0000e-005**	**5.5700e-003**	**1.4700e-003**	**3.0000e-005**	**1.5000e-003**	**0.0000**	**4.6348**	**4.6348**	**1.2000e-004**	**0.0000**	**4.6377**

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					0.0506	0.0000	0.0506	0.0210	0.0000	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0666	0.7511	0.4782	9.3000e-004		0.0325	0.0325		0.0299	0.0299	0.0000	81.5220	81.5220	0.0264	0.0000	82.1812
Total	**0.0666**	**0.7511**	**0.4782**	**9.3000e-004**	**0.0506**	**0.0325**	**0.0831**	**0.0210**	**0.0299**	**0.0509**	**0.0000**	**81.5220**	**81.5220**	**0.0264**	**0.0000**	**82.1812**

3.4 Grading - 2020

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	2.3200e-003	1.6200e-003	0.0173	5.0000e-005	5.5400e-003	3.0000e-005	5.5700e-003	1.4700e-003	3.0000e-005	1.5000e-003	0.0000	4.6348	4.6348	1.2000e-004	0.0000	4.6377
Total	**2.3200e-003**	**1.6200e-003**	**0.0173**	**5.0000e-005**	**5.5400e-003**	**3.0000e-005**	**5.5700e-003**	**1.4700e-003**	**3.0000e-005**	**1.5000e-003**	**0.0000**	**4.6348**	**4.6348**	**1.2000e-004**	**0.0000**	**4.6377**

3.5 Building Construction - 2020

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	0.3176	2.8759	2.5228	4.0300e-003		0.1673	0.1673		0.1573	0.1573	0.0000	347.0485	347.0485	0.0847	0.0000	349.1663
Total	**0.3176**	**2.8759**	**2.5228**	**4.0300e-003**		**0.1673**	**0.1673**		**0.1573**	**0.1573**	**0.0000**	**347.0485**	**347.0485**	**0.0847**	**0.0000**	**349.1663**

3.5 Building Construction - 2020

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	0.0354	1.2951	0.2534	3.2000e-003	0.0787	7.3200e-003	0.0860	0.0227	7.0100e-003	0.0297	0.0000	306.1793	306.1793	0.0245	0.0000	306.7912
Worker	0.1462	0.1024	1.0939	3.2400e-003	0.3497	2.1500e-003	0.3518	0.0929	1.9800e-003	0.0948	0.0000	292.5408	292.5408	7.3300e-003	0.0000	292.7239
Total	**0.1816**	**1.3976**	**1.3472**	**6.4400e-003**	**0.4283**	**9.4700e-003**	**0.4378**	**0.1155**	**8.9900e-003**	**0.1245**	**0.0000**	**598.7201**	**598.7201**	**0.0318**	**0.0000**	**599.5151**

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	0.3176	2.8759	2.5228	4.0300e-003		0.1673	0.1673		0.1573	0.1573	0.0000	347.0481	347.0481	0.0847	0.0000	349.1659
Total	**0.3176**	**2.8759**	**2.5228**	**4.0300e-003**		**0.1673**	**0.1673**		**0.1573**	**0.1573**	**0.0000**	**347.0481**	**347.0481**	**0.0847**	**0.0000**	**349.1659**

3.5 Building Construction - 2020

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	0.0354	1.2951	0.2534	3.2000e-003	0.0787	7.3200e-003	0.0860	0.0227	7.0100e-003	0.0297	0.0000	306.1793	306.1793	0.0245	0.0000	306.7912
Worker	0.1462	0.1024	1.0939	3.2400e-003	0.3497	2.1500e-003	0.3518	0.0929	1.9800e-003	0.0948	0.0000	292.5408	292.5408	7.3300e-003	0.0000	292.7239
Total	**0.1816**	**1.3976**	**1.3472**	**6.4400e-003**	**0.4283**	**9.4700e-003**	**0.4378**	**0.1155**	**8.9900e-003**	**0.1245**	**0.0000**	**598.7201**	**598.7201**	**0.0318**	**0.0000**	**599.5151**

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	0.0126	0.1297	0.1471	2.3000e-004		6.8000e-003	6.8000e-003		6.2600e-003	6.2600e-003	0.0000	20.0986	20.0986	6.5000e-003	0.0000	20.2611
Paving	0.0116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0242**	**0.1297**	**0.1471**	**2.3000e-004**		**6.8000e-003**	**6.8000e-003**		**6.2600e-003**	**6.2600e-003**	**0.0000**	**20.0986**	**20.0986**	**6.5000e-003**	**0.0000**	**20.2611**

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	1.3000e-003	8.7000e-004	9.5200e-003	3.0000e-005	3.3200e-003	2.0000e-005	3.3400e-003	8.8000e-004	2.0000e-005	9.0000e-004	0.0000	2.6888	2.6888	6.0000e-005	0.0000	2.6903
Total	**1.3000e-003**	**8.7000e-004**	**9.5200e-003**	**3.0000e-005**	**3.3200e-003**	**2.0000e-005**	**3.3400e-003**	**8.8000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**2.6888**	**2.6888**	**6.0000e-005**	**0.0000**	**2.6903**

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	0.0126	0.1297	0.1471	2.3000e-004		6.8000e-003	6.8000e-003		6.2600e-003	6.2600e-003	0.0000	20.0985	20.0985	6.5000e-003	0.0000	20.2611
Paving	0.0116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0242**	**0.1297**	**0.1471**	**2.3000e-004**		**6.8000e-003**	**6.8000e-003**		**6.2600e-003**	**6.2600e-003**	**0.0000**	**20.0985**	**20.0985**	**6.5000e-003**	**0.0000**	**20.2611**

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	1.3000e-003	8.7000e-004	9.5200e-003	3.0000e-005	3.3200e-003	2.0000e-005	3.3400e-003	8.8000e-004	2.0000e-005	9.0000e-004	0.0000	2.6888	2.6888	6.0000e-005	0.0000	2.6903
Total	**1.3000e-003**	**8.7000e-004**	**9.5200e-003**	**3.0000e-005**	**3.3200e-003**	**2.0000e-005**	**3.3400e-003**	**8.8000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**2.6888**	**2.6888**	**6.0000e-005**	**0.0000**	**2.6903**

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	0.3280					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**0.3302**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

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	1.8000e-003	1.2100e-003	0.0132	4.0000e-005	4.6200e-003	3.0000e-005	4.6400e-003	1.2300e-003	3.0000e-005	1.2500e-003	0.0000	3.7332	3.7332	9.0000e-005	0.0000	3.7353
Total	**1.8000e-003**	**1.2100e-003**	**0.0132**	**4.0000e-005**	**4.6200e-003**	**3.0000e-005**	**4.6400e-003**	**1.2300e-003**	**3.0000e-005**	**1.2500e-003**	**0.0000**	**3.7332**	**3.7332**	**9.0000e-005**	**0.0000**	**3.7353**

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	0.3280					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**0.3302**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

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	1.8000e-003	1.2100e-003	0.0132	4.0000e-005	4.6200e-003	3.0000e-005	4.6400e-003	1.2300e-003	3.0000e-005	1.2500e-003	0.0000	3.7332	3.7332	9.0000e-005	0.0000	3.7353
Total	**1.8000e-003**	**1.2100e-003**	**0.0132**	**4.0000e-005**	**4.6200e-003**	**3.0000e-005**	**4.6400e-003**	**1.2300e-003**	**3.0000e-005**	**1.2500e-003**	**0.0000**	**3.7332**	**3.7332**	**9.0000e-005**	**0.0000**	**3.7353**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	0.1154	1.0136	1.6113	7.5900e-003	0.6061	5.2700e-003	0.6113	0.1624	4.9300e-003	0.1673	0.0000	703.0915	703.0915	0.0314	0.0000	703.8754
Unmitigated	0.1154	1.0136	1.6113	7.5900e-003	0.6061	5.2700e-003	0.6113	0.1624	4.9300e-003	0.1673	0.0000	703.0915	703.0915	0.0314	0.0000	703.8754

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	451.94	176.28	73.35	1,587,446	1,587,446
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	451.94	176.28	73.35	1,587,446	1,587,446

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
Manufacturing	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

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	382.6284	382.6284	0.0158	3.2700e-003	383.9972
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	382.6284	382.6284	0.0158	3.2700e-003	383.9972
NaturalGas Mitigated	0.0207	0.1884	0.1583	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	205.1317	205.1317	3.9300e-003	3.7600e-003	206.3506
NaturalGas Unmitigated	0.0207	0.1884	0.1583	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	205.1317	205.1317	3.9300e-003	3.7600e-003	206.3506

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					
Manufacturing	3.84402e+006	0.0207	0.1884	0.1583	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	205.1317	205.1317	3.9300e-003	3.7600e-003	206.3506
Other Asphalt Surfaces	0	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		**0.0207**	**0.1884**	**0.1583**	**1.1300e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**205.1317**	**205.1317**	**3.9300e-003**	**3.7600e-003**	**206.3506**

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					
Manufacturing	3.84402e+006	0.0207	0.1884	0.1583	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	205.1317	205.1317	3.9300e-003	3.7600e-003	206.3506
Other Asphalt Surfaces	0	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		**0.0207**	**0.1884**	**0.1583**	**1.1300e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**205.1317**	**205.1317**	**3.9300e-003**	**3.7600e-003**	**206.3506**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	1.20089e +006	382.6284	0.0158	3.2700e-003	383.9972
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**382.6284**	**0.0158**	**3.2700e-003**	**383.9972**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	1.20089e +006	382.6284	0.0158	3.2700e-003	383.9972
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**382.6284**	**0.0158**	**3.2700e-003**	**383.9972**

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	0.5134	6.0000e-005	6.4600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0125	0.0125	3.0000e-005	0.0000	0.0134
Unmitigated	0.5134	6.0000e-005	6.4600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0125	0.0125	3.0000e-005	0.0000	0.0134

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	0.0602					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4525					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-004	6.0000e-005	6.4600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0125	0.0125	3.0000e-005	0.0000	0.0134
Total	**0.5134**	**6.0000e-005**	**6.4600e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0125**	**0.0125**	**3.0000e-005**	**0.0000**	**0.0134**

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	0.0602					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4525					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-004	6.0000e-005	6.4600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0125	0.0125	3.0000e-005	0.0000	0.0134
Total	**0.5134**	**6.0000e-005**	**6.4600e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0125**	**0.0125**	**3.0000e-005**	**0.0000**	**0.0134**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	122.1868	0.8962	0.0220	151.1533
Unmitigated	122.1868	0.8962	0.0220	151.1533

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	27.3592 / 0	122.1868	0.8962	0.0220	151.1533
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**122.1868**	**0.8962**	**0.0220**	**151.1533**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	27.3592 / 0	122.1868	0.8962	0.0220	151.1533
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**122.1868**	**0.8962**	**0.0220**	**151.1533**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	29.7788	1.7599	0.0000	73.7757
Unmitigated	29.7788	1.7599	0.0000	73.7757

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	146.7	29.7788	1.7599	0.0000	73.7757
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**29.7788**	**1.7599**	**0.0000**	**73.7757**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	146.7	29.7788	1.7599	0.0000	73.7757
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**29.7788**	**1.7599**	**0.0000**	**73.7757**

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

Hemet S2A Modular Factory (Phase 1)

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	118.31	1000sqft	2.72	118,314.00	0
Other Asphalt Surfaces	386.87	1000sqft	8.88	386,869.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Phil Gleason

Land Use - Accounts for Building A (4,959sf), Building B (101,335sf), Building E (12,000sf) and 80% of paving (386,869sf)

Construction Phase - Assumes no demo or site prep, since no structures and relatively flat site. 1 mo grading, 4 mo construction, 2 weeks paving, 2 weeks arch coating

Off-road Equipment - Arch Coat - Equipment quantity adjusted to reflect intensified development schedule.

Off-road Equipment - Building Const - Equip quantity and runtime adjusted to reflect intensified dev schedule.

Off-road Equipment -

Off-road Equipment - Grading - Equip quantity and runtime adjusted to reflect intensified dev schedule.

Off-road Equipment - Paving - Equip quantity and runtime adjusted to account for intensified dev schedule.

Off-road Equipment -

Grading -

Architectural Coating - VOC content of arch coating adjusted to reflect compliance with SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - Watering 3x per day to reflect compliance with SCAQMD Rule 403.

Trips and VMT - Worker and vendor trips adjusted upward to reflect intensified dev schedule.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	30.00	21.00
tblConstructionPhase	NumDays	300.00	88.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	20.00	10.00
tblLandUse	LandUseSquareFeet	118,310.00	118,314.00
tblLandUse	LandUseSquareFeet	386,870.00	386,869.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	11.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	11.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.60
tblOffRoadEquipment	UsageHours	8.00	7.40
tblOffRoadEquipment	UsageHours	8.00	6.80
tblOffRoadEquipment	UsageHours	8.00	5.70
tblOffRoadEquipment	UsageHours	8.00	7.30
tblOffRoadEquipment	UsageHours	8.00	7.30
tblOffRoadEquipment	UsageHours	8.00	7.30
tblOffRoadEquipment	UsageHours	8.00	5.70
tblOffRoadEquipment	UsageHours	8.00	7.60
tblOffRoadEquipment	UsageHours	7.00	6.50
tblOffRoadEquipment	UsageHours	8.00	7.60
tblOffRoadEquipment	UsageHours	8.00	6.80
tblTripsAndVMT	VendorTripNumber	83.00	283.00

tblTripsAndVMT	WorkerTripNumber	33.00	48.00
tblTripsAndVMT	WorkerTripNumber	212.00	723.00
tblTripsAndVMT	WorkerTripNumber	30.00	55.00
tblTripsAndVMT	WorkerTripNumber	42.00	84.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	11.6858	96.6555	91.8162	0.2456	12.8959	4.0173	15.9970	5.2673	3.7791	8.1203	0.0000	24,452.5346	24,452.5346	2.9110	0.0000	24,525.3085
2021	66.4333	23.7259	28.7756	0.0475	0.9389	1.2405	1.8552	0.2490	1.1412	1.3043	0.0000	4,613.7728	4,613.7728	1.3168	0.0000	4,646.6916
Maximum	**66.4333**	**96.6555**	**91.8162**	**0.2456**	**12.8959**	**4.0173**	**15.9970**	**5.2673**	**3.7791**	**8.1203**	**0.0000**	**24,452.5346**	**24,452.5346**	**2.9110**	**0.0000**	**24,525.3085**

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	lb/day										lb/day					
2020	11.6858	96.6555	91.8162	0.2456	9.8937	4.0173	13.9110	2.6650	3.7791	6.4441	0.0000	24,452.5346	24,452.5346	2.9110	0.0000	24,525.3085
2021	66.4333	23.7259	28.7756	0.0475	0.9389	1.2405	1.8552	0.2490	1.1412	1.3043	0.0000	4,613.7728	4,613.7728	1.3168	0.0000	4,646.6916
Maximum	**66.4333**	**96.6555**	**91.8162**	**0.2456**	**9.8937**	**4.0173**	**13.9110**	**2.6650**	**3.7791**	**6.4441**	**0.0000**	**24,452.5346**	**24,452.5346**	**2.9110**	**0.0000**	**24,525.3085**

	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**	**21.70**	**0.00**	**11.68**	**47.17**	**0.00**	**17.79**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Area	2.8144	4.7000e-004	0.0517	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1106	0.1106	2.9000e-004		0.1179
Energy	0.1136	1.0325	0.8673	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.0079	1,239.0079	0.0238	0.0227	1,246.3707
Mobile	0.9302	6.8679	12.6696	0.0557	4.2680	0.0364	4.3044	1.1419	0.0341	1.1760		5,682.7647	5,682.7647	0.2407		5,688.7812
Total	**3.8582**	**7.9008**	**13.5886**	**0.0619**	**4.2680**	**0.1151**	**4.3830**	**1.1419**	**0.1128**	**1.2546**		**6,921.8831**	**6,921.8831**	**0.2647**	**0.0227**	**6,935.2697**

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	lb/day										lb/day					
Area	2.8144	4.7000e-004	0.0517	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1106	0.1106	2.9000e-004		0.1179
Energy	0.1136	1.0325	0.8673	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.0079	1,239.0079	0.0238	0.0227	1,246.3707
Mobile	0.9302	6.8679	12.6696	0.0557	4.2680	0.0364	4.3044	1.1419	0.0341	1.1760		5,682.7647	5,682.7647	0.2407		5,688.7812
Total	**3.8582**	**7.9008**	**13.5886**	**0.0619**	**4.2680**	**0.1151**	**4.3830**	**1.1419**	**0.1128**	**1.2546**		**6,921.8831**	**6,921.8831**	**0.2647**	**0.0227**	**6,935.2697**

	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	8/1/2020	7/31/2020	5	0	
2	Site Preparation	Site Preparation	8/1/2020	7/31/2020	5	0	
3	Grading	Grading	8/1/2020	8/31/2020	5	21	
4	Building Construction	Building Construction	9/1/2020	12/31/2020	5	88	
5	Paving	Paving	1/1/2021	1/15/2021	5	11	
6	Architectural Coating	Architectural Coating	1/18/2021	1/29/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 74.81

Acres of Paving: 8.88

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 177,471; Non-Residential Outdoor: 59,157; Striped Parking Area: 23,212 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	3	7.60	158	0.38
Grading	Graders	2	5.70	187	0.41
Grading	Rubber Tired Dozers	2	5.70	247	0.40
Grading	Scrapers	3	7.60	367	0.48
Grading	Tractors/Loaders/Backhoes	3	7.60	97	0.37
Building Construction	Cranes	4	6.00	231	0.29
Building Construction	Forklifts	11	7.40	89	0.20
Building Construction	Generator Sets	4	6.80	84	0.74
Building Construction	Tractors/Loaders/Backhoes	11	6.50	97	0.37
Building Construction	Welders	4	6.80	46	0.45
Paving	Pavers	4	7.30	130	0.42
Paving	Paving Equipment	4	7.30	132	0.36
Paving	Rollers	4	7.30	80	0.38
Architectural Coating	Air Compressors	2	6.00	78	0.48

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
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	13	48.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	34	723.00	283.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	55.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	84.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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	lb/day										lb/day					
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 - 2020

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	lb/day										lb/day					
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	lb/day										lb/day					
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 - 2020

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	lb/day										lb/day					
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 - 2020

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	lb/day										lb/day					
Fugitive Dust	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
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**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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	lb/day										lb/day					
Fugitive Dust	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
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**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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**

3.4 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					12.3594	0.0000	12.3594	5.1250	0.0000	5.1250			0.0000			0.0000
Off-Road	6.3414	71.5315	45.5405	0.0884		3.0978	3.0978		2.8500	2.8500		8,558.358 0	8,558.358 0	2.7680		8,627.556 7
Total	**6.3414**	**71.5315**	**45.5405**	**0.0884**	**12.3594**	**3.0978**	**15.4572**	**5.1250**	**2.8500**	**7.9750**		**8,558.358 0**	**8,558.358 0**	**2.7680**		**8,627.556 7**

3.4 Grading - 2020

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	lb/day										lb/day					
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
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
Worker	0.2443	0.1445	1.9354	5.3100e-003	0.5365	3.2500e-003	0.5398	0.1423	2.9900e-003	0.1453		528.7654	528.7654	0.0136		529.1042
Total	**0.2443**	**0.1445**	**1.9354**	**5.3100e-003**	**0.5365**	**3.2500e-003**	**0.5398**	**0.1423**	**2.9900e-003**	**0.1453**		**528.7654**	**528.7654**	**0.0136**		**529.1042**

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	lb/day										lb/day					
Fugitive Dust					4.8202	0.0000	4.8202	1.9988	0.0000	1.9988			0.0000			0.0000
Off-Road	6.3414	71.5315	45.5405	0.0884		3.0978	3.0978		2.8500	2.8500	0.0000	8,558.3580	8,558.3580	2.7680		8,627.5567
Total	**6.3414**	**71.5315**	**45.5405**	**0.0884**	**4.8202**	**3.0978**	**7.9180**	**1.9988**	**2.8500**	**4.8487**	**0.0000**	**8,558.3580**	**8,558.3580**	**2.7680**		**8,627.5567**

3.4 Grading - 2020

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	lb/day										lb/day					
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
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
Worker	0.2443	0.1445	1.9354	5.3100e-003	0.5365	3.2500e-003	0.5398	0.1423	2.9900e-003	0.1453		528.7654	528.7654	0.0136		529.1042
Total	**0.2443**	**0.1445**	**1.9354**	**5.3100e-003**	**0.5365**	**3.2500e-003**	**0.5398**	**0.1423**	**2.9900e-003**	**0.1453**		**528.7654**	**528.7654**	**0.0136**		**529.1042**

3.5 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	7.2178	65.3612	57.3368	0.0917		3.8028	3.8028		3.5756	3.5756		8,694.4429	8,694.4429	2.1223		8,747.4992
Total	**7.2178**	**65.3612**	**57.3368**	**0.0917**		**3.8028**	**3.8028**		**3.5756**	**3.5756**		**8,694.4429**	**8,694.4429**	**2.1223**		**8,747.4992**

3.5 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.7888	29.1184	5.3270	0.0739	1.8122	0.1656	1.9778	0.5218	0.1584	0.6802		7,793.563 1	7,793.563 1	0.5846		7,808.177 0
Worker	3.6792	2.1759	29.1524	0.0800	8.0814	0.0489	8.1304	2.1432	0.0451	2.1883		7,964.528 5	7,964.528 5	0.2042		7,969.632 3
Total	**4.4680**	**31.2943**	**34.4794**	**0.1539**	**9.8937**	**0.2146**	**10.1082**	**2.6650**	**0.2035**	**2.8685**		**15,758.09 17**	**15,758.09 17**	**0.7887**		**15,777.80 92**

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	lb/day										lb/day					
Off-Road	7.2178	65.3612	57.3368	0.0917		3.8028	3.8028		3.5756	3.5756	0.0000	8,694.442 9	8,694.442 9	2.1223		8,747.499 2
Total	**7.2178**	**65.3612**	**57.3368**	**0.0917**		**3.8028**	**3.8028**		**3.5756**	**3.5756**	**0.0000**	**8,694.442 9**	**8,694.442 9**	**2.1223**		**8,747.499 2**

3.5 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.7888	29.1184	5.3270	0.0739	1.8122	0.1656	1.9778	0.5218	0.1584	0.6802		7,793.5631	7,793.5631	0.5846		7,808.1770
Worker	3.6792	2.1759	29.1524	0.0800	8.0814	0.0489	8.1304	2.1432	0.0451	2.1883		7,964.5285	7,964.5285	0.2042		7,969.6323
Total	**4.4680**	**31.2943**	**34.4794**	**0.1539**	**9.8937**	**0.2146**	**10.1082**	**2.6650**	**0.2035**	**2.8685**		**15,758.0917**	**15,758.0917**	**0.7887**		**15,777.8092**

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	lb/day										lb/day					
Off-Road	2.2914	23.5774	26.7422	0.0416		1.2369	1.2369		1.1379	1.1379		4,028.1598	4,028.1598	1.3028		4,060.7296
Paving	2.1151					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**4.4064**	**23.5774**	**26.7422**	**0.0416**		**1.2369**	**1.2369**		**1.1379**	**1.1379**		**4,028.1598**	**4,028.1598**	**1.3028**		**4,060.7296**

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	lb/day										lb/day					
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
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
Worker	0.2608	0.1486	2.0334	5.8800e-003	0.6148	3.6200e-003	0.6184	0.1630	3.3400e-003	0.1664		585.6130	585.6130	0.0140		585.9621
Total	**0.2608**	**0.1486**	**2.0334**	**5.8800e-003**	**0.6148**	**3.6200e-003**	**0.6184**	**0.1630**	**3.3400e-003**	**0.1664**		**585.6130**	**585.6130**	**0.0140**		**585.9621**

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	lb/day										lb/day					
Off-Road	2.2914	23.5774	26.7422	0.0416		1.2369	1.2369		1.1379	1.1379	0.0000	4,028.1598	4,028.1598	1.3028		4,060.7295
Paving	2.1151					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**4.4064**	**23.5774**	**26.7422**	**0.0416**		**1.2369**	**1.2369**		**1.1379**	**1.1379**	**0.0000**	**4,028.1598**	**4,028.1598**	**1.3028**		**4,060.7295**

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	lb/day										lb/day					
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
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
Worker	0.2608	0.1486	2.0334	5.8800e-003	0.6148	3.6200e-003	0.6184	0.1630	3.3400e-003	0.1664		585.6130	585.6130	0.0140		585.9621
Total	**0.2608**	**0.1486**	**2.0334**	**5.8800e-003**	**0.6148**	**3.6200e-003**	**0.6184**	**0.1630**	**3.3400e-003**	**0.1664**		**585.6130**	**585.6130**	**0.0140**		**585.9621**

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	lb/day										lb/day					
Archit. Coating	65.5973					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4378	3.0537	3.6351	5.9400e-003		0.1882	0.1882		0.1882	0.1882		562.8961	562.8961	0.0386		563.8618
Total	**66.0351**	**3.0537**	**3.6351**	**5.9400e-003**		**0.1882**	**0.1882**		**0.1882**	**0.1882**		**562.8961**	**562.8961**	**0.0386**		**563.8618**

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	lb/day										lb/day					
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
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
Worker	0.3982	0.2269	3.1056	8.9800e-003	0.9389	5.5300e-003	0.9445	0.2490	5.0900e-003	0.2541		894.3908	894.3908	0.0213		894.9239
Total	**0.3982**	**0.2269**	**3.1056**	**8.9800e-003**	**0.9389**	**5.5300e-003**	**0.9445**	**0.2490**	**5.0900e-003**	**0.2541**		**894.3908**	**894.3908**	**0.0213**		**894.9239**

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	lb/day										lb/day					
Archit. Coating	65.5973					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4378	3.0537	3.6351	5.9400e-003		0.1882	0.1882		0.1882	0.1882	0.0000	562.8961	562.8961	0.0386		563.8618
Total	**66.0351**	**3.0537**	**3.6351**	**5.9400e-003**		**0.1882**	**0.1882**		**0.1882**	**0.1882**	**0.0000**	**562.8961**	**562.8961**	**0.0386**		**563.8618**

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	lb/day										lb/day					
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
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
Worker	0.3982	0.2269	3.1056	8.9800e-003	0.9389	5.5300e-003	0.9445	0.2490	5.0900e-003	0.2541		894.3908	894.3908	0.0213		894.9239
Total	**0.3982**	**0.2269**	**3.1056**	**8.9800e-003**	**0.9389**	**5.5300e-003**	**0.9445**	**0.2490**	**5.0900e-003**	**0.2541**		**894.3908**	**894.3908**	**0.0213**		**894.9239**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	lb/day										lb/day					
Mitigated	0.9302	6.8679	12.6696	0.0557	4.2680	0.0364	4.3044	1.1419	0.0341	1.1760		5,682.764 7	5,682.764 7	0.2407		5,688.781 2
Unmitigated	0.9302	6.8679	12.6696	0.0557	4.2680	0.0364	4.3044	1.1419	0.0341	1.1760		5,682.764 7	5,682.764 7	0.2407		5,688.781 2

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	451.94	176.28	73.35	1,587,446	1,587,446
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	451.94	176.28	73.35	1,587,446	1,587,446

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
Manufacturing	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

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	lb/day										lb/day					
NaturalGas Mitigated	0.1136	1.0325	0.8673	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.0079	1,239.0079	0.0238	0.0227	1,246.3707
NaturalGas Unmitigated	0.1136	1.0325	0.8673	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.0079	1,239.0079	0.0238	0.0227	1,246.3707

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	lb/day										lb/day					
Manufacturing	10531.6	0.1136	1.0325	0.8673	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.0079	1,239.0079	0.0238	0.0227	1,246.3707
Other Asphalt Surfaces	0	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		**0.1136**	**1.0325**	**0.8673**	**6.2000e-003**		**0.0785**	**0.0785**		**0.0785**	**0.0785**		**1,239.0079**	**1,239.0079**	**0.0238**	**0.0227**	**1,246.3707**

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	lb/day										lb/day					
Manufacturing	10.5316	0.1136	1.0325	0.8673	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.0079	1,239.0079	0.0238	0.0227	1,246.3707
Other Asphalt Surfaces	0	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		**0.1136**	**1.0325**	**0.8673**	**6.2000e-003**		**0.0785**	**0.0785**		**0.0785**	**0.0785**		**1,239.0079**	**1,239.0079**	**0.0238**	**0.0227**	**1,246.3707**

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	lb/day										lb/day					
Mitigated	2.8144	4.7000e-004	0.0517	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1106	0.1106	2.9000e-004		0.1179
Unmitigated	2.8144	4.7000e-004	0.0517	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1106	0.1106	2.9000e-004		0.1179

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	lb/day										lb/day					
Architectural Coating	0.3300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8000e-003	4.7000e-004	0.0517	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1106	0.1106	2.9000e-004		0.1179
Total	**2.8144**	**4.7000e-004**	**0.0517**	**0.0000**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**		**0.1106**	**0.1106**	**2.9000e-004**		**0.1179**

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	lb/day										lb/day					
Architectural Coating	0.3300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8000e-003	4.7000e-004	0.0517	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1106	0.1106	2.9000e-004		0.1179
Total	**2.8144**	**4.7000e-004**	**0.0517**	**0.0000**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**		**0.1106**	**0.1106**	**2.9000e-004**		**0.1179**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Hemet S2A Modular Factory (Phase 1)

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	118.31	1000sqft	2.72	118,314.00	0
Other Asphalt Surfaces	386.87	1000sqft	8.88	386,869.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Phil Gleason

Land Use - Accounts for Building A (4,959sf), Building B (101,335sf), Building E (12,000sf) and 80% of paving (386,869sf)

Construction Phase - Assumes no demo or site prep, since no structures and relatively flat site. 1 mo grading, 4 mo construction, 2 weeks paving, 2 weeks arch coating

Off-road Equipment - Arch Coat - Equipment quantity adjusted to reflect intensified development schedule.

Off-road Equipment - Building Const - Equip quantity and runtime adjusted to reflect intensified dev schedule.

Off-road Equipment -

Off-road Equipment - Grading - Equip quantity and runtime adjusted to reflect intensified dev schedule.

Off-road Equipment - Paving - Equip quantity and runtime adjusted to account for intensified dev schedule.

Off-road Equipment -

Grading -

Architectural Coating - VOC content of arch coating adjusted to reflect compliance with SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - Watering 3x per day to reflect compliance with SCAQMD Rule 403.

Trips and VMT - Worker and vendor trips adjusted upward to reflect intensified dev schedule.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	30.00	21.00
tblConstructionPhase	NumDays	300.00	88.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	20.00	10.00
tblLandUse	LandUseSquareFeet	118,310.00	118,314.00
tblLandUse	LandUseSquareFeet	386,870.00	386,869.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	11.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	11.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.60
tblOffRoadEquipment	UsageHours	8.00	7.40
tblOffRoadEquipment	UsageHours	8.00	6.80
tblOffRoadEquipment	UsageHours	8.00	5.70
tblOffRoadEquipment	UsageHours	8.00	7.30
tblOffRoadEquipment	UsageHours	8.00	7.30
tblOffRoadEquipment	UsageHours	8.00	7.30
tblOffRoadEquipment	UsageHours	8.00	5.70
tblOffRoadEquipment	UsageHours	8.00	7.60
tblOffRoadEquipment	UsageHours	7.00	6.50
tblOffRoadEquipment	UsageHours	8.00	7.60
tblOffRoadEquipment	UsageHours	8.00	6.80
tblTripsAndVMT	VendorTripNumber	83.00	283.00

tblTripsAndVMT	WorkerTripNumber	33.00	48.00
tblTripsAndVMT	WorkerTripNumber	212.00	723.00
tblTripsAndVMT	WorkerTripNumber	30.00	55.00
tblTripsAndVMT	WorkerTripNumber	42.00	84.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	11.6529	96.5780	87.1564	0.2345	12.8959	4.0193	15.9970	5.2673	3.7809	8.1203	0.0000	23,340.0979	23,340.0979	2.9502	0.0000	23,413.8528
2021	66.4259	23.7310	28.3835	0.0469	0.9389	1.2405	1.8552	0.2490	1.1412	1.3043	0.0000	4,553.5163	4,553.5163	1.3149	0.0000	4,586.3895
Maximum	**66.4259**	**96.5780**	**87.1564**	**0.2345**	**12.8959**	**4.0193**	**15.9970**	**5.2673**	**3.7809**	**8.1203**	**0.0000**	**23,340.0979**	**23,340.0979**	**2.9502**	**0.0000**	**23,413.8528**

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	lb/day										lb/day					
2020	11.6529	96.5780	87.1564	0.2345	9.8937	4.0193	13.9129	2.6650	3.7809	6.4459	0.0000	23,340.0979	23,340.0979	2.9502	0.0000	23,413.8528
2021	66.4259	23.7310	28.3835	0.0469	0.9389	1.2405	1.8552	0.2490	1.1412	1.3043	0.0000	4,553.5163	4,553.5163	1.3149	0.0000	4,586.3895
Maximum	**66.4259**	**96.5780**	**87.1564**	**0.2345**	**9.8937**	**4.0193**	**13.9129**	**2.6650**	**3.7809**	**6.4459**	**0.0000**	**23,340.0979**	**23,340.0979**	**2.9502**	**0.0000**	**23,413.8528**

	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**	**21.70**	**0.00**	**11.67**	**47.17**	**0.00**	**17.77**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Area	2.8144	4.7000e-004	0.0517	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1106	0.1106	2.9000e-004		0.1179
Energy	0.1136	1.0325	0.8673	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.0079	1,239.0079	0.0238	0.0227	1,246.3707
Mobile	0.7964	6.9036	10.7833	0.0515	4.2680	0.0367	4.3047	1.1419	0.0344	1.1763		5,257.3072	5,257.3072	0.2453		5,263.4395
Total	**3.7244**	**7.9366**	**11.7023**	**0.0577**	**4.2680**	**0.1153**	**4.3833**	**1.1419**	**0.1130**	**1.2549**		**6,496.4256**	**6,496.4256**	**0.2693**	**0.0227**	**6,509.9280**

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	lb/day										lb/day					
Area	2.8144	4.7000e-004	0.0517	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1106	0.1106	2.9000e-004		0.1179
Energy	0.1136	1.0325	0.8673	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.0079	1,239.0079	0.0238	0.0227	1,246.3707
Mobile	0.7964	6.9036	10.7833	0.0515	4.2680	0.0367	4.3047	1.1419	0.0344	1.1763		5,257.3072	5,257.3072	0.2453		5,263.4395
Total	**3.7244**	**7.9366**	**11.7023**	**0.0577**	**4.2680**	**0.1153**	**4.3833**	**1.1419**	**0.1130**	**1.2549**		**6,496.4256**	**6,496.4256**	**0.2693**	**0.0227**	**6,509.9280**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	8/1/2020	7/31/2020	5	0	
2	Site Preparation	Site Preparation	8/1/2020	7/31/2020	5	0	
3	Grading	Grading	8/1/2020	8/31/2020	5	21	
4	Building Construction	Building Construction	9/1/2020	12/31/2020	5	88	
5	Paving	Paving	1/1/2021	1/15/2021	5	11	
6	Architectural Coating	Architectural Coating	1/18/2021	1/29/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 74.81

Acres of Paving: 8.88

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 177,471; Non-Residential Outdoor: 59,157; Striped Parking Area: 23,212 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	3	7.60	158	0.38
Grading	Graders	2	5.70	187	0.41
Grading	Rubber Tired Dozers	2	5.70	247	0.40
Grading	Scrapers	3	7.60	367	0.48
Grading	Tractors/Loaders/Backhoes	3	7.60	97	0.37
Building Construction	Cranes	4	6.00	231	0.29
Building Construction	Forklifts	11	7.40	89	0.20
Building Construction	Generator Sets	4	6.80	84	0.74
Building Construction	Tractors/Loaders/Backhoes	11	6.50	97	0.37
Building Construction	Welders	4	6.80	46	0.45
Paving	Pavers	4	7.30	130	0.42
Paving	Paving Equipment	4	7.30	132	0.36
Paving	Rollers	4	7.30	80	0.38
Architectural Coating	Air Compressors	2	6.00	78	0.48

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
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	13	48.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	34	723.00	283.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	55.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	84.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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	lb/day										lb/day					
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 - 2020

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	lb/day										lb/day					
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	lb/day										lb/day					
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 - 2020

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	lb/day										lb/day					
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 - 2020

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	lb/day										lb/day					
Fugitive Dust	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
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**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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	lb/day										lb/day					
Fugitive Dust	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
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**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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**

3.4 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					12.3594	0.0000	12.3594	5.1250	0.0000	5.1250			0.0000			0.0000
Off-Road	6.3414	71.5315	45.5405	0.0884		3.0978	3.0978		2.8500	2.8500		8,558.3580	8,558.3580	2.7680		8,627.5567
Total	**6.3414**	**71.5315**	**45.5405**	**0.0884**	**12.3594**	**3.0978**	**15.4572**	**5.1250**	**2.8500**	**7.9750**		**8,558.3580**	**8,558.3580**	**2.7680**		**8,627.5567**

3.4 Grading - 2020

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	lb/day										lb/day					
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
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
Worker	0.2392	0.1494	1.5656	4.7600e-003	0.5365	3.2500e-003	0.5398	0.1423	2.9900e-003	0.1453		474.3532	474.3532	0.0118		474.6477
Total	**0.2392**	**0.1494**	**1.5656**	**4.7600e-003**	**0.5365**	**3.2500e-003**	**0.5398**	**0.1423**	**2.9900e-003**	**0.1453**		**474.3532**	**474.3532**	**0.0118**		**474.6477**

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	lb/day										lb/day					
Fugitive Dust					4.8202	0.0000	4.8202	1.9988	0.0000	1.9988			0.0000			0.0000
Off-Road	6.3414	71.5315	45.5405	0.0884		3.0978	3.0978		2.8500	2.8500	0.0000	8,558.3580	8,558.3580	2.7680		8,627.5567
Total	**6.3414**	**71.5315**	**45.5405**	**0.0884**	**4.8202**	**3.0978**	**7.9180**	**1.9988**	**2.8500**	**4.8487**	**0.0000**	**8,558.3580**	**8,558.3580**	**2.7680**		**8,627.5567**

3.4 Grading - 2020

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	lb/day										lb/day					
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
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
Worker	0.2392	0.1494	1.5656	4.7600e-003	0.5365	3.2500e-003	0.5398	0.1423	2.9900e-003	0.1453		474.3532	474.3532	0.0118		474.6477
Total	**0.2392**	**0.1494**	**1.5656**	**4.7600e-003**	**0.5365**	**3.2500e-003**	**0.5398**	**0.1423**	**2.9900e-003**	**0.1453**		**474.3532**	**474.3532**	**0.0118**		**474.6477**

3.5 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	7.2178	65.3612	57.3368	0.0917		3.8028	3.8028		3.5756	3.5756		8,694.4429	8,694.4429	2.1223		8,747.4992
Total	**7.2178**	**65.3612**	**57.3368**	**0.0917**		**3.8028**	**3.8028**		**3.5756**	**3.5756**		**8,694.4429**	**8,694.4429**	**2.1223**		**8,747.4992**

3.5 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.8320	28.9659	6.2373	0.0712	1.8122	0.1676	1.9798	0.5218	0.1603	0.6821		7,500.7102	7,500.7102	0.6505		7,516.9722
Worker	3.6031	2.2510	23.5823	0.0717	8.0814	0.0489	8.1304	2.1432	0.0451	2.1883		7,144.9448	7,144.9448	0.1775		7,149.3814
Total	**4.4351**	**31.2168**	**29.8197**	**0.1429**	**9.8937**	**0.2165**	**10.1102**	**2.6650**	**0.2054**	**2.8704**		**14,645.6550**	**14,645.6550**	**0.8280**		**14,666.3536**

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	lb/day										lb/day					
Off-Road	7.2178	65.3612	57.3368	0.0917		3.8028	3.8028		3.5756	3.5756	0.0000	8,694.4429	8,694.4429	2.1223		8,747.4992
Total	**7.2178**	**65.3612**	**57.3368**	**0.0917**		**3.8028**	**3.8028**		**3.5756**	**3.5756**	**0.0000**	**8,694.4429**	**8,694.4429**	**2.1223**		**8,747.4992**

3.5 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.8320	28.9659	6.2373	0.0712	1.8122	0.1676	1.9798	0.5218	0.1603	0.6821		7,500.7102	7,500.7102	0.6505		7,516.9722
Worker	3.6031	2.2510	23.5823	0.0717	8.0814	0.0489	8.1304	2.1432	0.0451	2.1883		7,144.9448	7,144.9448	0.1775		7,149.3814
Total	**4.4351**	**31.2168**	**29.8197**	**0.1429**	**9.8937**	**0.2165**	**10.1102**	**2.6650**	**0.2054**	**2.8704**		**14,645.6550**	**14,645.6550**	**0.8280**		**14,666.3536**

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	lb/day										lb/day					
Off-Road	2.2914	23.5774	26.7422	0.0416		1.2369	1.2369		1.1379	1.1379		4,028.1598	4,028.1598	1.3028		4,060.7296
Paving	2.1151					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**4.4064**	**23.5774**	**26.7422**	**0.0416**		**1.2369**	**1.2369**		**1.1379**	**1.1379**		**4,028.1598**	**4,028.1598**	**1.3028**		**4,060.7296**

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	lb/day										lb/day					
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
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
Worker	0.2559	0.1536	1.6414	5.2700e-003	0.6148	3.6200e-003	0.6184	0.1630	3.3400e-003	0.1664		525.3565	525.3565	0.0121		525.6600
Total	**0.2559**	**0.1536**	**1.6414**	**5.2700e-003**	**0.6148**	**3.6200e-003**	**0.6184**	**0.1630**	**3.3400e-003**	**0.1664**		**525.3565**	**525.3565**	**0.0121**		**525.6600**

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	lb/day										lb/day					
Off-Road	2.2914	23.5774	26.7422	0.0416		1.2369	1.2369		1.1379	1.1379	0.0000	4,028.1598	4,028.1598	1.3028		4,060.7295
Paving	2.1151					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**4.4064**	**23.5774**	**26.7422**	**0.0416**		**1.2369**	**1.2369**		**1.1379**	**1.1379**	**0.0000**	**4,028.1598**	**4,028.1598**	**1.3028**		**4,060.7295**

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	lb/day										lb/day					
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
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
Worker	0.2559	0.1536	1.6414	5.2700e-003	0.6148	3.6200e-003	0.6184	0.1630	3.3400e-003	0.1664		525.3565	525.3565	0.0121		525.6600
Total	**0.2559**	**0.1536**	**1.6414**	**5.2700e-003**	**0.6148**	**3.6200e-003**	**0.6184**	**0.1630**	**3.3400e-003**	**0.1664**		**525.3565**	**525.3565**	**0.0121**		**525.6600**

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	lb/day										lb/day					
Archit. Coating	65.5973					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4378	3.0537	3.6351	5.9400e-003		0.1882	0.1882		0.1882	0.1882		562.8961	562.8961	0.0386		563.8618
Total	**66.0351**	**3.0537**	**3.6351**	**5.9400e-003**		**0.1882**	**0.1882**		**0.1882**	**0.1882**		**562.8961**	**562.8961**	**0.0386**		**563.8618**

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	lb/day										lb/day					
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
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
Worker	0.3908	0.2346	2.5068	8.0500e-003	0.9389	5.5300e-003	0.9445	0.2490	5.0900e-003	0.2541		802.3626	802.3626	0.0185		802.8261
Total	**0.3908**	**0.2346**	**2.5068**	**8.0500e-003**	**0.9389**	**5.5300e-003**	**0.9445**	**0.2490**	**5.0900e-003**	**0.2541**		**802.3626**	**802.3626**	**0.0185**		**802.8261**

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	lb/day										lb/day					
Archit. Coating	65.5973					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4378	3.0537	3.6351	5.9400e-003		0.1882	0.1882		0.1882	0.1882	0.0000	562.8961	562.8961	0.0386		563.8618
Total	**66.0351**	**3.0537**	**3.6351**	**5.9400e-003**		**0.1882**	**0.1882**		**0.1882**	**0.1882**	**0.0000**	**562.8961**	**562.8961**	**0.0386**		**563.8618**

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	lb/day										lb/day					
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
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
Worker	0.3908	0.2346	2.5068	8.0500e-003	0.9389	5.5300e-003	0.9445	0.2490	5.0900e-003	0.2541		802.3626	802.3626	0.0185		802.8261
Total	**0.3908**	**0.2346**	**2.5068**	**8.0500e-003**	**0.9389**	**5.5300e-003**	**0.9445**	**0.2490**	**5.0900e-003**	**0.2541**		**802.3626**	**802.3626**	**0.0185**		**802.8261**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	lb/day										lb/day					
Mitigated	0.7964	6.9036	10.7833	0.0515	4.2680	0.0367	4.3047	1.1419	0.0344	1.1763		5,257.3072	5,257.3072	0.2453		5,263.4395
Unmitigated	0.7964	6.9036	10.7833	0.0515	4.2680	0.0367	4.3047	1.1419	0.0344	1.1763		5,257.3072	5,257.3072	0.2453		5,263.4395

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	451.94	176.28	73.35	1,587,446	1,587,446
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	451.94	176.28	73.35	1,587,446	1,587,446

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
Manufacturing	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	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
	lb/day										lb/day					
NaturalGas Mitigated	0.1136	1.0325	0.8673	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.0079	1,239.0079	0.0238	0.0227	1,246.3707
NaturalGas Unmitigated	0.1136	1.0325	0.8673	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.0079	1,239.0079	0.0238	0.0227	1,246.3707

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	lb/day										lb/day					
Manufacturing	10531.6	0.1136	1.0325	0.8673	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.0079	1,239.0079	0.0238	0.0227	1,246.3707
Other Asphalt Surfaces	0	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		**0.1136**	**1.0325**	**0.8673**	**6.2000e-003**		**0.0785**	**0.0785**		**0.0785**	**0.0785**		**1,239.0079**	**1,239.0079**	**0.0238**	**0.0227**	**1,246.3707**

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	lb/day										lb/day					
Manufacturing	10.5316	0.1136	1.0325	0.8673	6.2000e-003		0.0785	0.0785		0.0785	0.0785		1,239.0079	1,239.0079	0.0238	0.0227	1,246.3707
Other Asphalt Surfaces	0	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		**0.1136**	**1.0325**	**0.8673**	**6.2000e-003**		**0.0785**	**0.0785**		**0.0785**	**0.0785**		**1,239.0079**	**1,239.0079**	**0.0238**	**0.0227**	**1,246.3707**

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	lb/day										lb/day					
Mitigated	2.8144	4.7000e-004	0.0517	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1106	0.1106	2.9000e-004		0.1179
Unmitigated	2.8144	4.7000e-004	0.0517	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1106	0.1106	2.9000e-004		0.1179

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	lb/day										lb/day					
Architectural Coating	0.3300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8000e-003	4.7000e-004	0.0517	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1106	0.1106	2.9000e-004		0.1179
Total	**2.8144**	**4.7000e-004**	**0.0517**	**0.0000**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**		**0.1106**	**0.1106**	**2.9000e-004**		**0.1179**

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	lb/day										lb/day					
Architectural Coating	0.3300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8000e-003	4.7000e-004	0.0517	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1106	0.1106	2.9000e-004		0.1179
Total	**2.8144**	**4.7000e-004**	**0.0517**	**0.0000**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**		**0.1106**	**0.1106**	**2.9000e-004**		**0.1179**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Hemet S2A Modular Factory (Phase 2)

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	101.36	1000sqft	2.33	101,355.00	0
Other Asphalt Surfaces	96.72	1000sqft	2.22	96,717.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Phil Gleason

Land Use - Accounts for Building B (101,355 sf), Building C (12,000 sf), and remaining paving (20%; 96,717 sf)

Construction Phase - Assumes no demo or site prep, since no structures and relatively level site. Building construction adjsuted to reflect intensified dev schedule.

Off-road Equipment - Building Const - Equipment quantity and runtime adjusted to reflect intensified dev schedule.

Trips and VMT - Worker and vendor trips increased during building const to account for intensified dev schedule.

Architectural Coating - VOC content of arch coating adjusted to reflect with SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - Watering 3x per day to reflect compliance with SCAQMD Rule 403.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	65.00
tblConstructionPhase	NumDays	5.00	0.00
tblLandUse	LandUseSquareFeet	101,360.00	101,355.00
tblLandUse	LandUseSquareFeet	96,720.00	96,717.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	11.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	7.00	6.20
tblOffRoadEquipment	UsageHours	8.00	7.70
tblOffRoadEquipment	UsageHours	8.00	7.10
tblOffRoadEquipment	UsageHours	7.00	7.40
tblOffRoadEquipment	UsageHours	8.00	7.10
tblTripsAndVMT	VendorTripNumber	32.00	114.00
tblTripsAndVMT	WorkerTripNumber	83.00	294.00

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	0.5423	2.5881	2.4743	5.3300e-003	0.1590	0.1222	0.2811	0.0493	0.1147	0.1640	0.0000	472.5333	472.5333	0.0813	0.0000	474.5651
Maximum	**0.5423**	**2.5881**	**2.4743**	**5.3300e-003**	**0.1590**	**0.1222**	**0.2811**	**0.0493**	**0.1147**	**0.1640**	**0.0000**	**472.5333**	**472.5333**	**0.0813**	**0.0000**	**474.5651**

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	0.5423	2.5881	2.4743	5.3300e-003	0.1430	0.1222	0.2651	0.0410	0.1147	0.1558	0.0000	472.5330	472.5330	0.0813	0.0000	474.5647
Maximum	**0.5423**	**2.5881**	**2.4743**	**5.3300e-003**	**0.1430**	**0.1222**	**0.2651**	**0.0410**	**0.1147**	**0.1558**	**0.0000**	**472.5330**	**472.5330**	**0.0813**	**0.0000**	**474.5647**

	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**	**10.06**	**0.00**	**5.68**	**16.69**	**0.00**	**5.01**	**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	**4-1-2021**	**6-30-2021**	2.4123	2.4123
2	**7-1-2021**	**9-30-2021**	0.7287	0.7287
		Highest	2.4123	2.4123

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	0.4211	2.0000e-005	2.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9200e-003	4.9200e-003	1.0000e-005	0.0000	5.2400e-003
Energy	0.0178	0.1614	0.1356	9.7000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	503.5111	503.5111	0.0169	6.0200e-003	505.7280
Mobile	0.0988	0.8684	1.3805	6.5000e-003	0.5192	4.5100e-003	0.5238	0.1391	4.2300e-003	0.1433	0.0000	602.3612	602.3612	0.0269	0.0000	603.0328
Waste						0.0000	0.0000		0.0000	0.0000	25.5139	0.0000	25.5139	1.5078	0.0000	63.2097
Water						0.0000	0.0000		0.0000	0.0000	7.4363	97.2451	104.6814	0.7678	0.0189	129.4979
Total	**0.5376**	**1.0298**	**1.5186**	**7.4700e-003**	**0.5192**	**0.0168**	**0.5360**	**0.1391**	**0.0165**	**0.1556**	**32.9502**	**1,203.1223**	**1,236.0725**	**2.3194**	**0.0249**	**1,301.4737**

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	0.4211	2.0000e-005	2.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9200e-003	4.9200e-003	1.0000e-005	0.0000	5.2400e-003
Energy	0.0178	0.1614	0.1356	9.7000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	503.5111	503.5111	0.0169	6.0200e-003	505.7280
Mobile	0.0988	0.8684	1.3805	6.5000e-003	0.5192	4.5100e-003	0.5238	0.1391	4.2300e-003	0.1433	0.0000	602.3612	602.3612	0.0269	0.0000	603.0328
Waste						0.0000	0.0000		0.0000	0.0000	25.5139	0.0000	25.5139	1.5078	0.0000	63.2097
Water						0.0000	0.0000		0.0000	0.0000	7.4363	97.2451	104.6814	0.7678	0.0189	129.4979
Total	**0.5376**	**1.0298**	**1.5186**	**7.4700e-003**	**0.5192**	**0.0168**	**0.5360**	**0.1391**	**0.0165**	**0.1556**	**32.9502**	**1,203.1223**	**1,236.0725**	**2.3194**	**0.0249**	**1,301.4737**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Hemet S2A Modular Factory (Phase 2) - Riverside-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2021	3/31/2021	5	0	
2	Grading	Grading	4/1/2021	4/12/2021	5	8	
3	Building Construction	Building Construction	4/13/2021	7/12/2021	5	65	
4	Site Preparation	Site Preparation	4/29/2021	4/28/2021	5	0	
5	Paving	Paving	7/13/2021	8/5/2021	5	18	
6	Architectural Coating	Architectural Coating	8/6/2021	8/31/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 2.22

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 152,033; Non-Residential Outdoor: 50,678; Striped Parking Area: 5,803 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	4	6.20	231	0.29
Building Construction	Forklifts	11	7.70	89	0.20
Building Construction	Generator Sets	4	7.10	84	0.74
Building Construction	Tractors/Loaders/Backhoes	10	7.40	97	0.37
Building Construction	Welders	4	7.10	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	33	294.00	114.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	17.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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 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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1600e-003	0.0990	0.0634	1.2000e-004		4.6400e-003	4.6400e-003		4.2700e-003	4.2700e-003	0.0000	10.4215	10.4215	3.3700e-003	0.0000	10.5057
Total	**9.1600e-003**	**0.0990**	**0.0634**	**1.2000e-004**	**0.0262**	**4.6400e-003**	**0.0309**	**0.0135**	**4.2700e-003**	**0.0177**	**0.0000**	**10.4215**	**10.4215**	**3.3700e-003**	**0.0000**	**10.5057**

3.3 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	2.6000e-004	1.7000e-004	1.8900e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5333	0.5333	1.0000e-005	0.0000	0.5336
Total	**2.6000e-004**	**1.7000e-004**	**1.8900e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5333**	**0.5333**	**1.0000e-005**	**0.0000**	**0.5336**

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					0.0102	0.0000	0.0102	5.2500e-003	0.0000	5.2500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1600e-003	0.0990	0.0634	1.2000e-004		4.6400e-003	4.6400e-003		4.2700e-003	4.2700e-003	0.0000	10.4215	10.4215	3.3700e-003	0.0000	10.5057
Total	**9.1600e-003**	**0.0990**	**0.0634**	**1.2000e-004**	**0.0102**	**4.6400e-003**	**0.0149**	**5.2500e-003**	**4.2700e-003**	**9.5200e-003**	**0.0000**	**10.4215**	**10.4215**	**3.3700e-003**	**0.0000**	**10.5057**

3.3 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	2.6000e-004	1.7000e-004	1.8900e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5333	0.5333	1.0000e-005	0.0000	0.5336
Total	**2.6000e-004**	**1.7000e-004**	**1.8900e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5333**	**0.5333**	**1.0000e-005**	**0.0000**	**0.5336**

3.4 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	0.2186	2.0036	1.9045	3.0900e-003		0.1101	0.1101		0.1036	0.1036	0.0000	266.2659	266.2659	0.0642	0.0000	267.8698
Total	**0.2186**	**2.0036**	**1.9045**	**3.0900e-003**		**0.1101**	**0.1101**		**0.1036**	**0.1036**	**0.0000**	**266.2659**	**266.2659**	**0.0642**	**0.0000**	**267.8698**

3.4 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	8.8400e-003	0.3455	0.0665	9.4000e-004	0.0234	6.6000e-004	0.0241	6.7500e-003	6.3000e-004	7.3800e-003	0.0000	90.3921	90.3921	6.9000e-003	0.0000	90.5645
Worker	0.0410	0.0276	0.3008	9.4000e-004	0.1050	6.3000e-004	0.1057	0.0279	5.8000e-004	0.0285	0.0000	84.9293	84.9293	1.9800e-003	0.0000	84.9787
Total	**0.0498**	**0.3731**	**0.3673**	**1.8800e-003**	**0.1284**	**1.2900e-003**	**0.1297**	**0.0346**	**1.2100e-003**	**0.0359**	**0.0000**	**175.3213**	**175.3213**	**8.8800e-003**	**0.0000**	**175.5432**

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	0.2186	2.0036	1.9045	3.0900e-003		0.1101	0.1101		0.1036	0.1036	0.0000	266.2655	266.2655	0.0642	0.0000	267.8695
Total	**0.2186**	**2.0036**	**1.9045**	**3.0900e-003**		**0.1101**	**0.1101**		**0.1036**	**0.1036**	**0.0000**	**266.2655**	**266.2655**	**0.0642**	**0.0000**	**267.8695**

3.4 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	8.8400e-003	0.3455	0.0665	9.4000e-004	0.0234	6.6000e-004	0.0241	6.7500e-003	6.3000e-004	7.3800e-003	0.0000	90.3921	90.3921	6.9000e-003	0.0000	90.5645
Worker	0.0410	0.0276	0.3008	9.4000e-004	0.1050	6.3000e-004	0.1057	0.0279	5.8000e-004	0.0285	0.0000	84.9293	84.9293	1.9800e-003	0.0000	84.9787
Total	**0.0498**	**0.3731**	**0.3673**	**1.8800e-003**	**0.1284**	**1.2900e-003**	**0.1297**	**0.0346**	**1.2100e-003**	**0.0359**	**0.0000**	**175.3213**	**175.3213**	**8.8800e-003**	**0.0000**	**175.5432**

3.5 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	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
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**

3.5 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	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					
Fugitive Dust	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
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**

3.5 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	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**

3.6 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	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7336	14.7336	4.6300e-003	0.0000	14.8493
Paving	2.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0128**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7336**	**14.7336**	**4.6300e-003**	**0.0000**	**14.8493**

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	7.7000e-004	5.2000e-004	5.6700e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.5999	1.5999	4.0000e-005	0.0000	1.6009
Total	**7.7000e-004**	**5.2000e-004**	**5.6700e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.5999**	**1.5999**	**4.0000e-005**	**0.0000**	**1.6009**

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	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7335	14.7335	4.6300e-003	0.0000	14.8493
Paving	2.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0128**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7335**	**14.7335**	**4.6300e-003**	**0.0000**	**14.8493**

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	7.7000e-004	5.2000e-004	5.6700e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.5999	1.5999	4.0000e-005	0.0000	1.6009
Total	**7.7000e-004**	**5.2000e-004**	**5.6700e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.5999**	**1.5999**	**4.0000e-005**	**0.0000**	**1.6009**

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	0.2483					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**0.2503**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

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	6.6000e-004	4.4000e-004	4.8200e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3599	1.3599	3.0000e-005	0.0000	1.3607
Total	**6.6000e-004**	**4.4000e-004**	**4.8200e-003**	**2.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3599**	**1.3599**	**3.0000e-005**	**0.0000**	**1.3607**

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	0.2483					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**0.2503**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

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	6.6000e-004	4.4000e-004	4.8200e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3599	1.3599	3.0000e-005	0.0000	1.3607
Total	**6.6000e-004**	**4.4000e-004**	**4.8200e-003**	**2.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3599**	**1.3599**	**3.0000e-005**	**0.0000**	**1.3607**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	0.0988	0.8684	1.3805	6.5000e-003	0.5192	4.5100e-003	0.5238	0.1391	4.2300e-003	0.1433	0.0000	602.3612	602.3612	0.0269	0.0000	603.0328
Unmitigated	0.0988	0.8684	1.3805	6.5000e-003	0.5192	4.5100e-003	0.5238	0.1391	4.2300e-003	0.1433	0.0000	602.3612	602.3612	0.0269	0.0000	603.0328

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	387.20	151.03	62.84	1,360,016	1,360,016
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	387.20	151.03	62.84	1,360,016	1,360,016

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
Manufacturing	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

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	327.7828	327.7828	0.0135	2.8000e-003	328.9555
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	327.7828	327.7828	0.0135	2.8000e-003	328.9555
NaturalGas Mitigated	0.0178	0.1614	0.1356	9.7000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	175.7283	175.7283	3.3700e-003	3.2200e-003	176.7726
NaturalGas Unmitigated	0.0178	0.1614	0.1356	9.7000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	175.7283	175.7283	3.3700e-003	3.2200e-003	176.7726

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					
Manufacturing	3.29302e+006	0.0178	0.1614	0.1356	9.7000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	175.7283	175.7283	3.3700e-003	3.2200e-003	176.7726
Other Asphalt Surfaces	0	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		**0.0178**	**0.1614**	**0.1356**	**9.7000e-004**		**0.0123**	**0.0123**		**0.0123**	**0.0123**	**0.0000**	**175.7283**	**175.7283**	**3.3700e-003**	**3.2200e-003**	**176.7726**

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					
Manufacturing	3.29302e+006	0.0178	0.1614	0.1356	9.7000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	175.7283	175.7283	3.3700e-003	3.2200e-003	176.7726
Other Asphalt Surfaces	0	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		**0.0178**	**0.1614**	**0.1356**	**9.7000e-004**		**0.0123**	**0.0123**		**0.0123**	**0.0123**	**0.0000**	**175.7283**	**175.7283**	**3.3700e-003**	**3.2200e-003**	**176.7726**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	1.02875e+006	327.7828	0.0135	2.8000e-003	328.9555
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**327.7828**	**0.0135**	**2.8000e-003**	**328.9555**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	1.02875e+006	327.7828	0.0135	2.8000e-003	328.9555
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**327.7828**	**0.0135**	**2.8000e-003**	**328.9555**

6.0 Area Detail

6.1 Mitigation Measures Area

Category	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
	tons/yr										MT/yr					
Mitigated	0.4211	2.0000e-005	2.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9200e-003	4.9200e-003	1.0000e-005	0.0000	5.2400e-003
Unmitigated	0.4211	2.0000e-005	2.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9200e-003	4.9200e-003	1.0000e-005	0.0000	5.2400e-003

6.2 Area by SubCategory

Unmitigated

SubCategory	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
	tons/yr										MT/yr					
Architectural Coating	0.0483					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3725					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4000e-004	2.0000e-005	2.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9200e-003	4.9200e-003	1.0000e-005	0.0000	5.2400e-003
Total	**0.4211**	**2.0000e-005**	**2.5300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.9200e-003**	**4.9200e-003**	**1.0000e-005**	**0.0000**	**5.2400e-003**

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	0.0483					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3725					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4000e-004	2.0000e-005	2.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9200e-003	4.9200e-003	1.0000e-005	0.0000	5.2400e-003
Total	**0.4211**	**2.0000e-005**	**2.5300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.9200e-003**	**4.9200e-003**	**1.0000e-005**	**0.0000**	**5.2400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	104.6814	0.7678	0.0189	129.4979
Unmitigated	104.6814	0.7678	0.0189	129.4979

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	23.4395 / 0	104.6814	0.7678	0.0189	129.4979
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**104.6814**	**0.7678**	**0.0189**	**129.4979**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	23.4395 / 0	104.6814	0.7678	0.0189	129.4979
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**104.6814**	**0.7678**	**0.0189**	**129.4979**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	25.5139	1.5078	0.0000	63.2097
Unmitigated	25.5139	1.5078	0.0000	63.2097

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	125.69	25.5139	1.5078	0.0000	63.2097
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**25.5139**	**1.5078**	**0.0000**	**63.2097**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	125.69	25.5139	1.5078	0.0000	63.2097
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**25.5139**	**1.5078**	**0.0000**	**63.2097**

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

Hemet S2A Modular Factory (Phase 2)

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	101.36	1000sqft	2.33	101,355.00	0
Other Asphalt Surfaces	96.72	1000sqft	2.22	96,717.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.4 **Precipitation Freq (Days)** 28

Climate Zone 10 **Operational Year** 2022

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 702.44 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Phil Gleason

Land Use - Accounts for Building B (101,355 sf), Building C (12,000 sf), and remaining paving (20%; 96,717 sf)

Construction Phase - Assumes no demo or site prep, since no structures and relatively level site. Building construction adjsuted to reflect intensified dev schedule.

Off-road Equipment - Building Const - Equipment quantity and runtime adjusted to reflect intensified dev schedule.

Trips and VMT - Worker and vendor trips increased during building const to account for intensified dev schedule.

Architectural Coating - VOC content of arch coating adjusted to reflect with SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - Watering 3x per day to reflect compliance with SCAQMD Rule 403.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	65.00
tblConstructionPhase	NumDays	5.00	0.00
tblLandUse	LandUseSquareFeet	101,360.00	101,355.00
tblLandUse	LandUseSquareFeet	96,720.00	96,717.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	11.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	7.00	6.20
tblOffRoadEquipment	UsageHours	8.00	7.70
tblOffRoadEquipment	UsageHours	8.00	7.10
tblOffRoadEquipment	UsageHours	7.00	7.40
tblOffRoadEquipment	UsageHours	8.00	7.10
tblTripsAndVMT	VendorTripNumber	32.00	114.00
tblTripsAndVMT	WorkerTripNumber	83.00	294.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2021	27.8928	72.9931	71.3529	0.1562	6.7200	3.5980	7.8809	3.4120	3.3240	4.4800	0.0000	15,276.4403	15,276.4403	2.4735	0.0000	15,338.2786
Maximum	**27.8928**	**72.9931**	**71.3529**	**0.1562**	**6.7200**	**3.5980**	**7.8809**	**3.4120**	**3.3240**	**4.4800**	**0.0000**	**15,276.4403**	**15,276.4403**	**2.4735**	**0.0000**	**15,338.2786**

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	lb/day										lb/day					
2021	27.8928	72.9931	71.3529	0.1562	4.0162	3.5980	7.4446	1.3578	3.3240	4.3052	0.0000	15,276.4402	15,276.4402	2.4735	0.0000	15,338.2786
Maximum	**27.8928**	**72.9931**	**71.3529**	**0.1562**	**4.0162**	**3.5980**	**7.4446**	**1.3578**	**3.3240**	**4.3052**	**0.0000**	**15,276.4402**	**15,276.4402**	**2.4735**	**0.0000**	**15,338.2786**

	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**	**40.23**	**0.00**	**5.54**	**60.20**	**0.00**	**3.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Area	2.3078	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0434	0.0434	1.1000e-004		0.0462
Energy	0.0973	0.8845	0.7430	5.3100e-003		0.0672	0.0672		0.0672	0.0672		1,061.4098	1,061.4098	0.0203	0.0195	1,067.7172
Mobile	0.7970	5.8839	10.8545	0.0477	3.6565	0.0312	3.6877	0.9783	0.0292	1.0075		4,868.6082	4,868.6082	0.2062		4,873.7627
Total	**3.2020**	**6.7686**	**11.6177**	**0.0530**	**3.6565**	**0.0985**	**3.7550**	**0.9783**	**0.0965**	**1.0748**		**5,930.0613**	**5,930.0613**	**0.2266**	**0.0195**	**5,941.5261**

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	lb/day										lb/day					
Area	2.3078	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0434	0.0434	1.1000e-004		0.0462
Energy	0.0973	0.8845	0.7430	5.3100e-003		0.0672	0.0672		0.0672	0.0672		1,061.4098	1,061.4098	0.0203	0.0195	1,067.7172
Mobile	0.7970	5.8839	10.8545	0.0477	3.6565	0.0312	3.6877	0.9783	0.0292	1.0075		4,868.6082	4,868.6082	0.2062		4,873.7627
Total	**3.2020**	**6.7686**	**11.6177**	**0.0530**	**3.6565**	**0.0985**	**3.7550**	**0.9783**	**0.0965**	**1.0748**		**5,930.0613**	**5,930.0613**	**0.2266**	**0.0195**	**5,941.5261**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	4/1/2021	3/31/2021	5	0	
2	Grading	Grading	4/1/2021	4/12/2021	5	8	
3	Building Construction	Building Construction	4/13/2021	7/12/2021	5	65	
4	Site Preparation	Site Preparation	4/29/2021	4/28/2021	5	0	
5	Paving	Paving	7/13/2021	8/5/2021	5	18	
6	Architectural Coating	Architectural Coating	8/6/2021	8/31/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 2.22

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 152,033; Non-Residential Outdoor: 50,678; Striped Parking Area: 5,803 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	4	6.20	231	0.29
Building Construction	Forklifts	11	7.70	89	0.20
Building Construction	Generator Sets	4	7.10	84	0.74
Building Construction	Tractors/Loaders/Backhoes	10	7.40	97	0.37
Building Construction	Welders	4	7.10	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	33	294.00	114.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	17.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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	lb/day										lb/day					
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	lb/day										lb/day					
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	lb/day										lb/day					
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	lb/day										lb/day					
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 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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

3.3 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	lb/day										lb/day					
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
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
Worker	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

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	lb/day										lb/day					
Fugitive Dust					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.5554**	**1.1599**	**3.7153**	**1.3133**	**1.0671**	**2.3804**	**0.0000**	**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

3.3 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	lb/day										lb/day					
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
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
Worker	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

3.4 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	lb/day										lb/day					
Off-Road	6.7247	61.6496	58.6012	0.0952		3.3890	3.3890		3.1865	3.1865		9,031.0109	9,031.0109	2.1760		9,085.4119
Total	**6.7247**	**61.6496**	**58.6012**	**0.0952**		**3.3890**	**3.3890**		**3.1865**	**3.1865**		**9,031.0109**	**9,031.0109**	**2.1760**		**9,085.4119**

3.4 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	lb/day										lb/day					
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
Vendor	0.2661	10.5495	1.8822	0.0295	0.7300	0.0201	0.7501	0.2102	0.0192	0.2294		3,115.0617	3,115.0617	0.2229		3,120.633 0
Worker	1.3938	0.7941	10.8695	0.0314	3.2862	0.0194	3.3056	0.8715	0.0178	0.8894		3,130.367 7	3,130.367 7	0.0746		3,132.233 7
Total	**1.6600**	**11.3435**	**12.7517**	**0.0610**	**4.0162**	**0.0394**	**4.0556**	**1.0817**	**0.0370**	**1.1187**		**6,245.429 3**	**6,245.429 3**	**0.2975**		**6,252.866 7**

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	lb/day										lb/day					
Off-Road	6.7247	61.6496	58.6012	0.0952		3.3890	3.3890		3.1865	3.1865	0.0000	9,031.010 9	9,031.010 9	2.1760		9,085.4119
Total	**6.7247**	**61.6496**	**58.6012**	**0.0952**		**3.3890**	**3.3890**		**3.1865**	**3.1865**	**0.0000**	**9,031.010 9**	**9,031.010 9**	**2.1760**		**9,085.411 9**

3.4 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	lb/day										lb/day					
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
Vendor	0.2661	10.5495	1.8822	0.0295	0.7300	0.0201	0.7501	0.2102	0.0192	0.2294		3,115.0617	3,115.0617	0.2229		3,120.6330
Worker	1.3938	0.7941	10.8695	0.0314	3.2862	0.0194	3.3056	0.8715	0.0178	0.8894		3,130.3677	3,130.3677	0.0746		3,132.2337
Total	**1.6600**	**11.3435**	**12.7517**	**0.0610**	**4.0162**	**0.0394**	**4.0556**	**1.0817**	**0.0370**	**1.1187**		**6,245.4293**	**6,245.4293**	**0.2975**		**6,252.8667**

3.5 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	lb/day										lb/day					
Fugitive Dust	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
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**

3.5 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	lb/day										lb/day					
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	lb/day										lb/day					
Fugitive Dust	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
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**

3.5 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	lb/day										lb/day					
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**

3.6 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	lb/day										lb/day					
Off-Road	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.3231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4171**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**		**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

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	lb/day										lb/day					
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
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
Worker	0.0948	0.0540	0.7394	2.1400e-003	0.2236	1.3200e-003	0.2249	0.0593	1.2100e-003	0.0605		212.9502	212.9502	5.0800e-003		213.0771
Total	**0.0948**	**0.0540**	**0.7394**	**2.1400e-003**	**0.2236**	**1.3200e-003**	**0.2249**	**0.0593**	**1.2100e-003**	**0.0605**		**212.9502**	**212.9502**	**5.0800e-003**		**213.0771**

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	lb/day										lb/day					
Off-Road	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.3231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4171**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**	**0.0000**	**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

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	lb/day										lb/day					
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
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
Worker	0.0948	0.0540	0.7394	2.1400e-003	0.2236	1.3200e-003	0.2249	0.0593	1.2100e-003	0.0605		212.9502	212.9502	5.0800e-003		213.0771
Total	**0.0948**	**0.0540**	**0.7394**	**2.1400e-003**	**0.2236**	**1.3200e-003**	**0.2249**	**0.0593**	**1.2100e-003**	**0.0605**		**212.9502**	**212.9502**	**5.0800e-003**		**213.0771**

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	lb/day										lb/day					
Archit. Coating	27.5933					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**27.8122**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	lb/day										lb/day					
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
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
Worker	0.0806	0.0459	0.6285	1.8200e-003	0.1900	1.1200e-003	0.1911	0.0504	1.0300e-003	0.0514		181.0077	181.0077	4.3200e-003		181.1156
Total	**0.0806**	**0.0459**	**0.6285**	**1.8200e-003**	**0.1900**	**1.1200e-003**	**0.1911**	**0.0504**	**1.0300e-003**	**0.0514**		**181.0077**	**181.0077**	**4.3200e-003**		**181.1156**

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	lb/day										lb/day					
Archit. Coating	27.5933					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**27.8122**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	lb/day										lb/day					
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
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
Worker	0.0806	0.0459	0.6285	1.8200e-003	0.1900	1.1200e-003	0.1911	0.0504	1.0300e-003	0.0514		181.0077	181.0077	4.3200e-003		181.1156
Total	**0.0806**	**0.0459**	**0.6285**	**1.8200e-003**	**0.1900**	**1.1200e-003**	**0.1911**	**0.0504**	**1.0300e-003**	**0.0514**		**181.0077**	**181.0077**	**4.3200e-003**		**181.1156**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	lb/day										lb/day					
Mitigated	0.7970	5.8839	10.8545	0.0477	3.6565	0.0312	3.6877	0.9783	0.0292	1.0075		4,868.608 2	4,868.608 2	0.2062		4,873.762 7
Unmitigated	0.7970	5.8839	10.8545	0.0477	3.6565	0.0312	3.6877	0.9783	0.0292	1.0075		4,868.608 2	4,868.608 2	0.2062		4,873.762 7

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	387.20	151.03	62.84	1,360,016	1,360,016
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	387.20	151.03	62.84	1,360,016	1,360,016

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
Manufacturing	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

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	lb/day										lb/day					
NaturalGas Mitigated	0.0973	0.8845	0.7430	5.3100e-003		0.0672	0.0672		0.0672	0.0672		1,061.4098	1,061.4098	0.0203	0.0195	1,067.7172
NaturalGas Unmitigated	0.0973	0.8845	0.7430	5.3100e-003		0.0672	0.0672		0.0672	0.0672		1,061.4098	1,061.4098	0.0203	0.0195	1,067.7172

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	lb/day										lb/day					
Manufacturing	9021.98	0.0973	0.8845	0.7430	5.3100e-003		0.0672	0.0672		0.0672	0.0672		1,061.4098	1,061.4098	0.0203	0.0195	1,067.7172
Other Asphalt Surfaces	0	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		**0.0973**	**0.8845**	**0.7430**	**5.3100e-003**		**0.0672**	**0.0672**		**0.0672**	**0.0672**		**1,061.4098**	**1,061.4098**	**0.0203**	**0.0195**	**1,067.7172**

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	lb/day										lb/day					
Manufacturing	9.02198	0.0973	0.8845	0.7430	5.3100e-003		0.0672	0.0672		0.0672	0.0672		1,061.4098	1,061.4098	0.0203	0.0195	1,067.7172
Other Asphalt Surfaces	0	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		**0.0973**	**0.8845**	**0.7430**	**5.3100e-003**		**0.0672**	**0.0672**		**0.0672**	**0.0672**		**1,061.4098**	**1,061.4098**	**0.0203**	**0.0195**	**1,067.7172**

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	lb/day										lb/day					
Mitigated	2.3078	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0434	0.0434	1.1000e-004		0.0462
Unmitigated	2.3078	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0434	0.0434	1.1000e-004		0.0462

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	lb/day										lb/day					
Architectural Coating	0.2648					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.8800e-003	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0434	0.0434	1.1000e-004		0.0462
Total	**2.3078**	**1.8000e-004**	**0.0203**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0434**	**0.0434**	**1.1000e-004**		**0.0462**

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	lb/day										lb/day					
Architectural Coating	0.2648					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.8800e-003	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0434	0.0434	1.1000e-004		0.0462
Total	**2.3078**	**1.8000e-004**	**0.0203**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0434**	**0.0434**	**1.1000e-004**		**0.0462**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Hemet S2A Modular Factory (Phase 2)

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	101.36	1000sqft	2.33	101,355.00	0
Other Asphalt Surfaces	96.72	1000sqft	2.22	96,717.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Phil Gleason

Land Use - Accounts for Building B (101,355 sf), Building C (12,000 sf), and remaining paving (20%; 96,717 sf)

Construction Phase - Assumes no demo or site prep, since no structures and relatively level site. Building construction adjsuted to reflect intensified dev schedule.

Off-road Equipment - Building Const - Equipment quantity and runtime adjusted to reflect intensified dev schedule.

Trips and VMT - Worker and vendor trips increased during building const to account for intensified dev schedule.

Architectural Coating - VOC content of arch coating adjusted to reflect with SCAQMD Rule 1113.

Construction Off-road Equipment Mitigation - Watering 3x per day to reflect compliance with SCAQMD Rule 403.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	65.00
tblConstructionPhase	NumDays	5.00	0.00
tblLandUse	LandUseSquareFeet	101,360.00	101,355.00
tblLandUse	LandUseSquareFeet	96,720.00	96,717.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	11.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	7.00	6.20
tblOffRoadEquipment	UsageHours	8.00	7.70
tblOffRoadEquipment	UsageHours	8.00	7.10
tblOffRoadEquipment	UsageHours	7.00	7.40
tblOffRoadEquipment	UsageHours	8.00	7.10
tblTripsAndVMT	VendorTripNumber	32.00	114.00
tblTripsAndVMT	WorkerTripNumber	83.00	294.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2021	27.8913	72.9294	69.6016	0.1518	6.7200	3.5980	7.8809	3.4120	3.3240	4.4800	0.0000	14,837.1747	14,837.1747	2.4892	0.0000	14,899.4058
Maximum	**27.8913**	**72.9294**	**69.6016**	**0.1518**	**6.7200**	**3.5980**	**7.8809**	**3.4120**	**3.3240**	**4.4800**	**0.0000**	**14,837.1747**	**14,837.1747**	**2.4892**	**0.0000**	**14,899.4058**

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	lb/day										lb/day					
2021	27.8913	72.9294	69.6016	0.1518	4.0162	3.5980	7.4452	1.3578	3.3240	4.3058	0.0000	14,837.1747	14,837.1747	2.4892	0.0000	14,899.4058
Maximum	**27.8913**	**72.9294**	**69.6016**	**0.1518**	**4.0162**	**3.5980**	**7.4452**	**1.3578**	**3.3240**	**4.3058**	**0.0000**	**14,837.1747**	**14,837.1747**	**2.4892**	**0.0000**	**14,899.4058**

	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**	**40.23**	**0.00**	**5.53**	**60.20**	**0.00**	**3.89**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Area	2.3078	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0434	0.0434	1.1000e-004		0.0462
Energy	0.0973	0.8845	0.7430	5.3100e-003		0.0672	0.0672		0.0672	0.0672		1,061.4098	1,061.4098	0.0203	0.0195	1,067.7172
Mobile	0.6823	5.9145	9.2384	0.0441	3.6565	0.0314	3.6880	0.9783	0.0295	1.0077		4,504.1049	4,504.1049	0.2102		4,509.3587
Total	**3.0873**	**6.7992**	**10.0017**	**0.0494**	**3.6565**	**0.0987**	**3.7552**	**0.9783**	**0.0967**	**1.0750**		**5,565.5581**	**5,565.5581**	**0.2306**	**0.0195**	**5,577.1221**

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	lb/day										lb/day					
Area	2.3078	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0434	0.0434	1.1000e-004		0.0462
Energy	0.0973	0.8845	0.7430	5.3100e-003		0.0672	0.0672		0.0672	0.0672		1,061.4098	1,061.4098	0.0203	0.0195	1,067.7172
Mobile	0.6823	5.9145	9.2384	0.0441	3.6565	0.0314	3.6880	0.9783	0.0295	1.0077		4,504.1049	4,504.1049	0.2102		4,509.3587
Total	**3.0873**	**6.7992**	**10.0017**	**0.0494**	**3.6565**	**0.0987**	**3.7552**	**0.9783**	**0.0967**	**1.0750**		**5,565.5581**	**5,565.5581**	**0.2306**	**0.0195**	**5,577.1221**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	4/1/2021	3/31/2021	5	0	
2	Grading	Grading	4/1/2021	4/12/2021	5	8	
3	Building Construction	Building Construction	4/13/2021	7/12/2021	5	65	
4	Site Preparation	Site Preparation	4/29/2021	4/28/2021	5	0	
5	Paving	Paving	7/13/2021	8/5/2021	5	18	
6	Architectural Coating	Architectural Coating	8/6/2021	8/31/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 2.22

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 152,033; Non-Residential Outdoor: 50,678; Striped Parking Area: 5,803 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	4	6.20	231	0.29
Building Construction	Forklifts	11	7.70	89	0.20
Building Construction	Generator Sets	4	7.10	84	0.74
Building Construction	Tractors/Loaders/Backhoes	10	7.40	97	0.37
Building Construction	Welders	4	7.10	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	33	294.00	114.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	17.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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	lb/day										lb/day					
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	lb/day										lb/day					
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	lb/day										lb/day					
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	lb/day										lb/day					
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 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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

3.3 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	lb/day										lb/day					
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
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
Worker	0.0698	0.0419	0.4476	1.4400e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0698**	**0.0419**	**0.4476**	**1.4400e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**143.2790**	**143.2790**	**3.3100e-003**		**143.3618**

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	lb/day										lb/day					
Fugitive Dust					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.5554**	**1.1599**	**3.7153**	**1.3133**	**1.0671**	**2.3804**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.3 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	lb/day										lb/day					
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
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
Worker	0.0698	0.0419	0.4476	1.4400e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0698**	**0.0419**	**0.4476**	**1.4400e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**143.2790**	**143.2790**	**3.3100e-003**		**143.3618**

3.4 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	lb/day										lb/day					
Off-Road	6.7247	61.6496	58.6012	0.0952		3.3890	3.3890		3.1865	3.1865		9,031.0109	9,031.0109	2.1760		9,085.4119
Total	**6.7247**	**61.6496**	**58.6012**	**0.0952**		**3.3890**	**3.3890**		**3.1865**	**3.1865**		**9,031.0109**	**9,031.0109**	**2.1760**		**9,085.4119**

3.4 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	lb/day										lb/day					
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
Vendor	0.2827	10.4586	2.2265	0.0284	0.7300	0.0207	0.7507	0.2102	0.0198	0.2299		2,997.894 7	2,997.894 7	0.2483		3,004.102 5
Worker	1.3679	0.8212	8.7738	0.0282	3.2862	0.0194	3.3056	0.8715	0.0178	0.8894		2,808.269 0	2,808.269 0	0.0649		2,809.891 4
Total	**1.6505**	**11.2798**	**11.0004**	**0.0566**	**4.0162**	**0.0400**	**4.0562**	**1.0817**	**0.0376**	**1.1193**		**5,806.163 7**	**5,806.163 7**	**0.3132**		**5,813.993 9**

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	lb/day										lb/day					
Off-Road	6.7247	61.6496	58.6012	0.0952		3.3890	3.3890		3.1865	3.1865	0.0000	9,031.010 9	9,031.010 9	2.1760		9,085.4119
Total	**6.7247**	**61.6496**	**58.6012**	**0.0952**		**3.3890**	**3.3890**		**3.1865**	**3.1865**	**0.0000**	**9,031.010 9**	**9,031.010 9**	**2.1760**		**9,085.411 9**

3.4 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	lb/day										lb/day					
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
Vendor	0.2827	10.4586	2.2265	0.0284	0.7300	0.0207	0.7507	0.2102	0.0198	0.2299		2,997.8947	2,997.8947	0.2483		3,004.1025
Worker	1.3679	0.8212	8.7738	0.0282	3.2862	0.0194	3.3056	0.8715	0.0178	0.8894		2,808.2690	2,808.2690	0.0649		2,809.8914
Total	**1.6505**	**11.2798**	**11.0004**	**0.0566**	**4.0162**	**0.0400**	**4.0562**	**1.0817**	**0.0376**	**1.1193**		**5,806.1637**	**5,806.1637**	**0.3132**		**5,813.9939**

3.5 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	lb/day										lb/day					
Fugitive Dust	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
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**

3.5 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	lb/day										lb/day					
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	lb/day										lb/day					
Fugitive Dust	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
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**

3.5 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	lb/day										lb/day					
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**

3.6 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	lb/day										lb/day					
Off-Road	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.552 3	1,804.552 3	0.5670		1,818.727 0
Paving	0.3231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4171**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**		**1,804.552 3**	**1,804.552 3**	**0.5670**		**1,818.727 0**

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	lb/day										lb/day					
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
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
Worker	0.0931	0.0559	0.5969	1.9200e-003	0.2236	1.3200e-003	0.2249	0.0593	1.2100e-003	0.0605		191.0387	191.0387	4.4100e-003		191.1491
Total	**0.0931**	**0.0559**	**0.5969**	**1.9200e-003**	**0.2236**	**1.3200e-003**	**0.2249**	**0.0593**	**1.2100e-003**	**0.0605**		**191.0387**	**191.0387**	**4.4100e-003**		**191.1491**

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	lb/day										lb/day					
Off-Road	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.552 3	1,804.552 3	0.5670		1,818.727 0
Paving	0.3231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4171**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**	**0.0000**	**1,804.552 3**	**1,804.552 3**	**0.5670**		**1,818.727 0**

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	lb/day										lb/day					
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
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
Worker	0.0931	0.0559	0.5969	1.9200e-003	0.2236	1.3200e-003	0.2249	0.0593	1.2100e-003	0.0605		191.0387	191.0387	4.4100e-003		191.1491
Total	**0.0931**	**0.0559**	**0.5969**	**1.9200e-003**	**0.2236**	**1.3200e-003**	**0.2249**	**0.0593**	**1.2100e-003**	**0.0605**		**191.0387**	**191.0387**	**4.4100e-003**		**191.1491**

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	lb/day										lb/day					
Archit. Coating	27.5933					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**27.8122**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	lb/day										lb/day					
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
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
Worker	0.0791	0.0475	0.5073	1.6300e-003	0.1900	1.1200e-003	0.1911	0.0504	1.0300e-003	0.0514		162.3829	162.3829	3.7500e-003		162.4767
Total	**0.0791**	**0.0475**	**0.5073**	**1.6300e-003**	**0.1900**	**1.1200e-003**	**0.1911**	**0.0504**	**1.0300e-003**	**0.0514**		**162.3829**	**162.3829**	**3.7500e-003**		**162.4767**

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	lb/day										lb/day					
Archit. Coating	27.5933					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**27.8122**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	lb/day										lb/day					
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
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
Worker	0.0791	0.0475	0.5073	1.6300e-003	0.1900	1.1200e-003	0.1911	0.0504	1.0300e-003	0.0514		162.3829	162.3829	3.7500e-003		162.4767
Total	**0.0791**	**0.0475**	**0.5073**	**1.6300e-003**	**0.1900**	**1.1200e-003**	**0.1911**	**0.0504**	**1.0300e-003**	**0.0514**		**162.3829**	**162.3829**	**3.7500e-003**		**162.4767**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	lb/day										lb/day					
Mitigated	0.6823	5.9145	9.2384	0.0441	3.6565	0.0314	3.6880	0.9783	0.0295	1.0077		4,504.1049	4,504.1049	0.2102		4,509.3587
Unmitigated	0.6823	5.9145	9.2384	0.0441	3.6565	0.0314	3.6880	0.9783	0.0295	1.0077		4,504.1049	4,504.1049	0.2102		4,509.3587

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	387.20	151.03	62.84	1,360,016	1,360,016
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	387.20	151.03	62.84	1,360,016	1,360,016

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
Manufacturing	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

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	lb/day										lb/day					
NaturalGas Mitigated	0.0973	0.8845	0.7430	5.3100e-003		0.0672	0.0672		0.0672	0.0672		1,061.4098	1,061.4098	0.0203	0.0195	1,067.7172
NaturalGas Unmitigated	0.0973	0.8845	0.7430	5.3100e-003		0.0672	0.0672		0.0672	0.0672		1,061.4098	1,061.4098	0.0203	0.0195	1,067.7172

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	lb/day										lb/day					
Manufacturing	9021.98	0.0973	0.8845	0.7430	5.3100e-003		0.0672	0.0672		0.0672	0.0672		1,061.4098	1,061.4098	0.0203	0.0195	1,067.7172
Other Asphalt Surfaces	0	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		**0.0973**	**0.8845**	**0.7430**	**5.3100e-003**		**0.0672**	**0.0672**		**0.0672**	**0.0672**		**1,061.4098**	**1,061.4098**	**0.0203**	**0.0195**	**1,067.7172**

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	lb/day										lb/day					
Manufacturing	9.02198	0.0973	0.8845	0.7430	5.3100e-003		0.0672	0.0672		0.0672	0.0672		1,061.4098	1,061.4098	0.0203	0.0195	1,067.7172
Other Asphalt Surfaces	0	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		**0.0973**	**0.8845**	**0.7430**	**5.3100e-003**		**0.0672**	**0.0672**		**0.0672**	**0.0672**		**1,061.4098**	**1,061.4098**	**0.0203**	**0.0195**	**1,067.7172**

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	lb/day										lb/day					
Mitigated	2.3078	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0434	0.0434	1.1000e-004		0.0462
Unmitigated	2.3078	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0434	0.0434	1.1000e-004		0.0462

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	lb/day										lb/day					
Architectural Coating	0.2648					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.8800e-003	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0434	0.0434	1.1000e-004		0.0462
Total	**2.3078**	**1.8000e-004**	**0.0203**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0434**	**0.0434**	**1.1000e-004**		**0.0462**

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	lb/day										lb/day					
Architectural Coating	0.2648					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.8800e-003	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0434	0.0434	1.1000e-004		0.0462
Total	**2.3078**	**1.8000e-004**	**0.0203**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0434**	**0.0434**	**1.1000e-004**		**0.0462**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Hemet S2A Modular Factory (Ops)

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	231.67	1000sqft	5.32	231,669.00	0
Other Asphalt Surfaces	483.59	1000sqft	11.10	483,586.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Phil Gleason

Land Use -

Construction Phase - Ops run - not for const emissions; see other model runs.

Vehicle Trips - Trip generation updated to reflect rate in TIA prepared for the project by Ganddini Group, Inc. (Table 2; 983 trips / 250 TSF = 3.93).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	NumDays	300.00	1.00
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	NumDays	30.00	1.00
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	PhaseEndDate	12/28/2021	12/1/2020
tblConstructionPhase	PhaseEndDate	11/2/2021	9/9/2020
tblConstructionPhase	PhaseEndDate	7/14/2020	6/17/2020
tblConstructionPhase	PhaseEndDate	9/8/2020	7/29/2020
tblConstructionPhase	PhaseEndDate	11/30/2021	11/3/2020
tblConstructionPhase	PhaseEndDate	7/28/2020	7/15/2020
tblConstructionPhase	PhaseStartDate	12/1/2021	12/1/2020
tblConstructionPhase	PhaseStartDate	11/3/2021	11/3/2020
tblGrading	AcresOfGrading	2.50	75.00
tblVehicleTrips	ST_TR	1.49	3.93
tblVehicleTrips	SU_TR	0.62	3.93
tblVehicleTrips	WD_TR	3.82	3.93

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					
2020	1.1645	0.0872	0.0628	1.3000e-004	0.0545	4.0500e-003	0.0586	0.0117	3.7500e-003	0.0154	0.0000	11.7892	11.7892	2.6800e-003	0.0000	11.8562
Maximum	**1.1645**	**0.0872**	**0.0628**	**1.3000e-004**	**0.0545**	**4.0500e-003**	**0.0586**	**0.0117**	**3.7500e-003**	**0.0154**	**0.0000**	**11.7892**	**11.7892**	**2.6800e-003**	**0.0000**	**11.8562**

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					
2020	1.1645	0.0872	0.0628	1.3000e-004	0.0545	4.0500e-003	0.0586	0.0117	3.7500e-003	0.0154	0.0000	11.7892	11.7892	2.6800e-003	0.0000	11.8562
Maximum	**1.1645**	**0.0872**	**0.0628**	**1.3000e-004**	**0.0545**	**4.0500e-003**	**0.0586**	**0.0117**	**3.7500e-003**	**0.0154**	**0.0000**	**11.7892**	**11.7892**	**2.6800e-003**	**0.0000**	**11.8562**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**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	**6-17-2020**	**9-16-2020**	0.0622	0.0622
		Highest	0.0622	0.0622

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	0.9834	8.0000e-005	9.1600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0178	0.0178	5.0000e-005	0.0000	0.0189
Energy	0.0406	0.3690	0.3099	2.2100e-003		0.0280	0.0280		0.0280	0.0280	0.0000	1,150.884 7	1,150.884 7	0.0386	0.0138	1,155.952 0
Mobile	0.3159	2.7846	4.4300	0.0198	1.5394	0.0146	1.5540	0.4125	0.0137	0.4261	0.0000	1,832.596 7	1,832.596 7	0.0842	0.0000	1,834.702 5
Waste						0.0000	0.0000		0.0000	0.0000	58.3132	0.0000	58.3132	3.4462	0.0000	144.4685
Water						0.0000	0.0000		0.0000	0.0000	16.9965	222.2649	239.2613	1.7549	0.0431	295.9825
Total	**1.3398**	**3.1537**	**4.7491**	**0.0220**	**1.5394**	**0.0426**	**1.5820**	**0.4125**	**0.0417**	**0.4542**	**75.3097**	**3,205.764 0**	**3,281.073 7**	**5.3240**	**0.0569**	**3,431.124 4**

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	0.9834	8.0000e-005	9.1600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0178	0.0178	5.0000e-005	0.0000	0.0189
Energy	0.0406	0.3690	0.3099	2.2100e-003		0.0280	0.0280		0.0280	0.0280	0.0000	1,150.8847	1,150.8847	0.0386	0.0138	1,155.9520
Mobile	0.3159	2.7846	4.4300	0.0198	1.5394	0.0146	1.5540	0.4125	0.0137	0.4261	0.0000	1,832.5967	1,832.5967	0.0842	0.0000	1,834.7025
Waste						0.0000	0.0000		0.0000	0.0000	58.3132	0.0000	58.3132	3.4462	0.0000	144.4685
Water						0.0000	0.0000		0.0000	0.0000	16.9965	222.2649	239.2613	1.7549	0.0431	295.9825
Total	**1.3398**	**3.1537**	**4.7491**	**0.0220**	**1.5394**	**0.0426**	**1.5820**	**0.4125**	**0.0417**	**0.4542**	**75.3097**	**3,205.7640**	**3,281.0737**	**5.3240**	**0.0569**	**3,431.1244**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	6/17/2020	6/17/2020	5	1	
2	Site Preparation	Site Preparation	7/15/2020	7/15/2020	5	1	
3	Grading	Grading	7/29/2020	7/29/2020	5	1	
4	Building Construction	Building Construction	9/9/2020	9/9/2020	5	1	
5	Paving	Paving	11/3/2020	11/3/2020	5	1	
6	Architectural Coating	Architectural Coating	12/1/2020	12/1/2020	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 11.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 347,504; Non-Residential Outdoor: 115,835; Striped Parking Area: 29,015 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	300.00	117.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	60.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

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	1.6600e-003	0.0166	0.0109	2.0000e-005		8.3000e-004	8.3000e-004		7.7000e-004	7.7000e-004	0.0000	1.6999	1.6999	4.8000e-004	0.0000	1.7119
Total	**1.6600e-003**	**0.0166**	**0.0109**	**2.0000e-005**		**8.3000e-004**	**8.3000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**1.6999**	**1.6999**	**4.8000e-004**	**0.0000**	**1.7119**

3.2 Demolition - 2020

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	3.0000e-005	2.0000e-005	2.6000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0690	0.0690	0.0000	0.0000	0.0690
Total	**3.0000e-005**	**2.0000e-005**	**2.6000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0690**	**0.0690**	**0.0000**	**0.0000**	**0.0690**

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	1.6600e-003	0.0166	0.0109	2.0000e-005		8.3000e-004	8.3000e-004		7.7000e-004	7.7000e-004	0.0000	1.6999	1.6999	4.8000e-004	0.0000	1.7119
Total	**1.6600e-003**	**0.0166**	**0.0109**	**2.0000e-005**		**8.3000e-004**	**8.3000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**1.6999**	**1.6999**	**4.8000e-004**	**0.0000**	**1.7119**

3.2 Demolition - 2020

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	3.0000e-005	2.0000e-005	2.6000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0690	0.0690	0.0000	0.0000	0.0690
Total	**3.0000e-005**	**2.0000e-005**	**2.6000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0690**	**0.0690**	**0.0000**	**0.0000**	**0.0690**

3.3 Site Preparation - 2020

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					9.0300e-003	0.0000	9.0300e-003	4.9700e-003	0.0000	4.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0400e-003	0.0212	0.0108	2.0000e-005		1.1000e-003	1.1000e-003		1.0100e-003	1.0100e-003	0.0000	1.6715	1.6715	5.4000e-004	0.0000	1.6851
Total	**2.0400e-003**	**0.0212**	**0.0108**	**2.0000e-005**	**9.0300e-003**	**1.1000e-003**	**0.0101**	**4.9700e-003**	**1.0100e-003**	**5.9800e-003**	**0.0000**	**1.6715**	**1.6715**	**5.4000e-004**	**0.0000**	**1.6851**

3.3 Site Preparation - 2020

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	3.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0828	0.0828	0.0000	0.0000	0.0828
Total	**4.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0828**	**0.0828**	**0.0000**	**0.0000**	**0.0828**

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					9.0300e-003	0.0000	9.0300e-003	4.9700e-003	0.0000	4.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0400e-003	0.0212	0.0108	2.0000e-005		1.1000e-003	1.1000e-003		1.0100e-003	1.0100e-003	0.0000	1.6715	1.6715	5.4000e-004	0.0000	1.6851
Total	**2.0400e-003**	**0.0212**	**0.0108**	**2.0000e-005**	**9.0300e-003**	**1.1000e-003**	**0.0101**	**4.9700e-003**	**1.0100e-003**	**5.9800e-003**	**0.0000**	**1.6715**	**1.6715**	**5.4000e-004**	**0.0000**	**1.6851**

3.3 Site Preparation - 2020

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	3.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0828	0.0828	0.0000	0.0000	0.0828
Total	**4.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0828**	**0.0828**	**0.0000**	**0.0000**	**0.0828**

3.4 Grading - 2020

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					0.0428	0.0000	0.0428	5.9500e-003	0.0000	5.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2300e-003	0.0251	0.0160	3.0000e-005		1.0900e-003	1.0900e-003		1.0000e-003	1.0000e-003	0.0000	2.7242	2.7242	8.8000e-004	0.0000	2.7462
Total	**2.2300e-003**	**0.0251**	**0.0160**	**3.0000e-005**	**0.0428**	**1.0900e-003**	**0.0439**	**5.9500e-003**	**1.0000e-003**	**6.9500e-003**	**0.0000**	**2.7242**	**2.7242**	**8.8000e-004**	**0.0000**	**2.7462**

3.4 Grading - 2020

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	5.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0920	0.0920	0.0000	0.0000	0.0920
Total	**5.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0920**	**0.0920**	**0.0000**	**0.0000**	**0.0920**

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					0.0428	0.0000	0.0428	5.9500e-003	0.0000	5.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2300e-003	0.0251	0.0160	3.0000e-005		1.0900e-003	1.0900e-003		1.0000e-003	1.0000e-003	0.0000	2.7242	2.7242	8.8000e-004	0.0000	2.7462
Total	**2.2300e-003**	**0.0251**	**0.0160**	**3.0000e-005**	**0.0428**	**1.0900e-003**	**0.0439**	**5.9500e-003**	**1.0000e-003**	**6.9500e-003**	**0.0000**	**2.7242**	**2.7242**	**8.8000e-004**	**0.0000**	**2.7462**

3.4 Grading - 2020

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	5.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0920	0.0920	0.0000	0.0000	0.0920
Total	**5.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0920**	**0.0920**	**0.0000**	**0.0000**	**0.0920**

3.5 Building Construction - 2020

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	1.0600e-003	9.5900e-003	8.4200e-003	1.0000e-005		5.6000e-004	5.6000e-004		5.3000e-004	5.3000e-004	0.0000	1.1581	1.1581	2.8000e-004	0.0000	1.1651
Total	**1.0600e-003**	**9.5900e-003**	**8.4200e-003**	**1.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.3000e-004**	**5.3000e-004**	**0.0000**	**1.1581**	**1.1581**	**2.8000e-004**	**0.0000**	**1.1651**

3.5 Building Construction - 2020

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	1.7000e-004	6.0800e-003	1.1900e-003	2.0000e-005	3.7000e-004	3.0000e-005	4.0000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	1.4384	1.4384	1.1000e-004	0.0000	1.4413
Worker	6.9000e-004	4.8000e-004	5.1600e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3794	1.3794	3.0000e-005	0.0000	1.3803
Total	**8.6000e-004**	**6.5600e-003**	**6.3500e-003**	**4.0000e-005**	**2.0200e-003**	**4.0000e-005**	**2.0600e-003**	**5.5000e-004**	**4.0000e-005**	**5.9000e-004**	**0.0000**	**2.8178**	**2.8178**	**1.4000e-004**	**0.0000**	**2.8216**

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	1.0600e-003	9.5900e-003	8.4200e-003	1.0000e-005		5.6000e-004	5.6000e-004		5.3000e-004	5.3000e-004	0.0000	1.1581	1.1581	2.8000e-004	0.0000	1.1651
Total	**1.0600e-003**	**9.5900e-003**	**8.4200e-003**	**1.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.3000e-004**	**5.3000e-004**	**0.0000**	**1.1581**	**1.1581**	**2.8000e-004**	**0.0000**	**1.1651**

3.5 Building Construction - 2020

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	1.7000e-004	6.0800e-003	1.1900e-003	2.0000e-005	3.7000e-004	3.0000e-005	4.0000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	1.4384	1.4384	1.1000e-004	0.0000	1.4413
Worker	6.9000e-004	4.8000e-004	5.1600e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3794	1.3794	3.0000e-005	0.0000	1.3803
Total	**8.6000e-004**	**6.5600e-003**	**6.3500e-003**	**4.0000e-005**	**2.0200e-003**	**4.0000e-005**	**2.0600e-003**	**5.5000e-004**	**4.0000e-005**	**5.9000e-004**	**0.0000**	**2.8178**	**2.8178**	**1.4000e-004**	**0.0000**	**2.8216**

3.6 Paving - 2020

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	6.8000e-004	7.0300e-003	7.3300e-003	1.0000e-005		3.8000e-004	3.8000e-004		3.5000e-004	3.5000e-004	0.0000	1.0014	1.0014	3.2000e-004	0.0000	1.0095
Paving	0.0145					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0152**	**7.0300e-003**	**7.3300e-003**	**1.0000e-005**		**3.8000e-004**	**3.8000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**1.0014**	**1.0014**	**3.2000e-004**	**0.0000**	**1.0095**

3.6 Paving - 2020

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	3.0000e-005	2.0000e-005	2.6000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0690	0.0690	0.0000	0.0000	0.0690
Total	**3.0000e-005**	**2.0000e-005**	**2.6000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0690**	**0.0690**	**0.0000**	**0.0000**	**0.0690**

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	6.8000e-004	7.0300e-003	7.3300e-003	1.0000e-005		3.8000e-004	3.8000e-004		3.5000e-004	3.5000e-004	0.0000	1.0014	1.0014	3.2000e-004	0.0000	1.0095
Paving	0.0145					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0152**	**7.0300e-003**	**7.3300e-003**	**1.0000e-005**		**3.8000e-004**	**3.8000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**1.0014**	**1.0014**	**3.2000e-004**	**0.0000**	**1.0095**

3.6 Paving - 2020

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	3.0000e-005	2.0000e-005	2.6000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0690	0.0690	0.0000	0.0000	0.0690
Total	**3.0000e-005**	**2.0000e-005**	**2.6000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0690**	**0.0690**	**0.0000**	**0.0000**	**0.0690**

3.7 Architectural Coating - 2020

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	1.1410					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2000e-004	8.4000e-004	9.2000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279
Total	**1.1412**	**8.4000e-004**	**9.2000e-004**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.1277**	**0.1277**	**1.0000e-005**	**0.0000**	**0.1279**

3.7 Architectural Coating - 2020

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	1.4000e-004	1.0000e-004	1.0300e-003	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2759	0.2759	1.0000e-005	0.0000	0.2761
Total	**1.4000e-004**	**1.0000e-004**	**1.0300e-003**	**0.0000**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2759**	**0.2759**	**1.0000e-005**	**0.0000**	**0.2761**

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	1.1410					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2000e-004	8.4000e-004	9.2000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279
Total	**1.1412**	**8.4000e-004**	**9.2000e-004**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.1277**	**0.1277**	**1.0000e-005**	**0.0000**	**0.1279**

3.7 Architectural Coating - 2020

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	1.4000e-004	1.0000e-004	1.0300e-003	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2759	0.2759	1.0000e-005	0.0000	0.2761
Total	**1.4000e-004**	**1.0000e-004**	**1.0300e-003**	**0.0000**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2759**	**0.2759**	**1.0000e-005**	**0.0000**	**0.2761**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	0.3159	2.7846	4.4300	0.0198	1.5394	0.0146	1.5540	0.4125	0.0137	0.4261	0.0000	1,832.5967	1,832.5967	0.0842	0.0000	1,834.7025
Unmitigated	0.3159	2.7846	4.4300	0.0198	1.5394	0.0146	1.5540	0.4125	0.0137	0.4261	0.0000	1,832.5967	1,832.5967	0.0842	0.0000	1,834.7025

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	910.46	910.46	910.46	4,031,766	4,031,766
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	910.46	910.46	910.46	4,031,766	4,031,766

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
Manufacturing	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Other Asphalt Surfaces	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038

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	749.2193	749.2193	0.0309	6.4000e-003	751.8996
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	749.2193	749.2193	0.0309	6.4000e-003	751.8996
NaturalGas Mitigated	0.0406	0.3690	0.3099	2.2100e-003		0.0280	0.0280		0.0280	0.0280	0.0000	401.6654	401.6654	7.7000e-003	7.3600e-003	404.0523
NaturalGas Unmitigated	0.0406	0.3690	0.3099	2.2100e-003		0.0280	0.0280		0.0280	0.0280	0.0000	401.6654	401.6654	7.7000e-003	7.3600e-003	404.0523

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					
Manufacturing	7.52693e+006	0.0406	0.3690	0.3099	2.2100e-003		0.0280	0.0280		0.0280	0.0280	0.0000	401.6654	401.6654	7.7000e-003	7.3600e-003	404.0523
Other Asphalt Surfaces	0	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		**0.0406**	**0.3690**	**0.3099**	**2.2100e-003**		**0.0280**	**0.0280**		**0.0280**	**0.0280**	**0.0000**	**401.6654**	**401.6654**	**7.7000e-003**	**7.3600e-003**	**404.0523**

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					
Manufacturing	7.52693e+006	0.0406	0.3690	0.3099	2.2100e-003		0.0280	0.0280		0.0280	0.0280	0.0000	401.6654	401.6654	7.7000e-003	7.3600e-003	404.0523
Other Asphalt Surfaces	0	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		**0.0406**	**0.3690**	**0.3099**	**2.2100e-003**		**0.0280**	**0.0280**		**0.0280**	**0.0280**	**0.0000**	**401.6654**	**401.6654**	**7.7000e-003**	**7.3600e-003**	**404.0523**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	2.35144e+006	749.2193	0.0309	6.4000e-003	751.8996
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**749.2193**	**0.0309**	**6.4000e-003**	**751.8996**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	2.35144e+006	749.2193	0.0309	6.4000e-003	751.8996
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**749.2193**	**0.0309**	**6.4000e-003**	**751.8996**

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	0.9834	8.0000e-005	9.1600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0178	0.0178	5.0000e-005	0.0000	0.0189
Unmitigated	0.9834	8.0000e-005	9.1600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0178	0.0178	5.0000e-005	0.0000	0.0189

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	0.1141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8684					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.6000e-004	8.0000e-005	9.1600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0178	0.0178	5.0000e-005	0.0000	0.0189
Total	**0.9834**	**8.0000e-005**	**9.1600e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0178**	**0.0178**	**5.0000e-005**	**0.0000**	**0.0189**

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	0.1141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8684					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.6000e-004	8.0000e-005	9.1600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0178	0.0178	5.0000e-005	0.0000	0.0189
Total	**0.9834**	**8.0000e-005**	**9.1600e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0178**	**0.0178**	**5.0000e-005**	**0.0000**	**0.0189**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	239.2613	1.7549	0.0431	295.9825
Unmitigated	239.2613	1.7549	0.0431	295.9825

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	53.5737 / 0	239.2613	1.7549	0.0431	295.9825
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**239.2613**	**1.7549**	**0.0431**	**295.9825**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	53.5737 / 0	239.2613	1.7549	0.0431	295.9825
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**239.2613**	**1.7549**	**0.0431**	**295.9825**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	58.3132	3.4462	0.0000	144.4685
Unmitigated	58.3132	3.4462	0.0000	144.4685

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	287.27	58.3132	3.4462	0.0000	144.4685
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**58.3132**	**3.4462**	**0.0000**	**144.4685**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	287.27	58.3132	3.4462	0.0000	144.4685
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**58.3132**	**3.4462**	**0.0000**	**144.4685**

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

Hemet S2A Modular Factory (Ops)

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	231.67	1000sqft	5.32	231,669.00	0
Other Asphalt Surfaces	483.59	1000sqft	11.10	483,586.00	0

1.2 Other Project Characteristics

Urbanization Urban

Wind Speed (m/s) 2.4

Precipitation Freq (Days) 28

Climate Zone 10

Operational Year 2021

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 702.44

CH4 Intensity (lb/MWhr) 0.029

N2O Intensity (lb/MWhr) 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Phil Gleason

Land Use -

Construction Phase - Ops run - not for const emissions; see other model runs.

Vehicle Trips - Trip generation updated to reflect rate in TIA prepared for the project by Ganddini Group, Inc. (Table 2; 983 trips / 250 TSF = 3.93).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	NumDays	300.00	1.00
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	NumDays	30.00	1.00
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	PhaseEndDate	12/28/2021	12/1/2020
tblConstructionPhase	PhaseEndDate	11/2/2021	9/9/2020
tblConstructionPhase	PhaseEndDate	7/14/2020	6/17/2020
tblConstructionPhase	PhaseEndDate	9/8/2020	7/29/2020
tblConstructionPhase	PhaseEndDate	11/30/2021	11/3/2020
tblConstructionPhase	PhaseEndDate	7/28/2020	7/15/2020
tblConstructionPhase	PhaseStartDate	12/1/2021	12/1/2020
tblConstructionPhase	PhaseStartDate	11/3/2021	11/3/2020
tblGrading	AcresOfGrading	2.50	75.00
tblVehicleTrips	ST_TR	1.49	3.93
tblVehicleTrips	SU_TR	0.62	3.93
tblVehicleTrips	WD_TR	3.82	3.93

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	2,282.6083	50.2577	32.7647	0.0907	85.7832	2.1986	87.9584	11.9577	2.0227	13.9589	0.0000	9,079.9205	9,079.9205	1.9481	0.0000	9,103.6514
Maximum	**2,282.6083**	**50.2577**	**32.7647**	**0.0907**	**85.7832**	**2.1986**	**87.9584**	**11.9577**	**2.0227**	**13.9589**	**0.0000**	**9,079.9205**	**9,079.9205**	**1.9481**	**0.0000**	**9,103.6514**

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	lb/day										lb/day					
2020	2,282.6083	50.2577	32.7647	0.0907	85.7832	2.1986	87.9584	11.9577	2.0227	13.9589	0.0000	9,079.9205	9,079.9205	1.9481	0.0000	9,103.6514
Maximum	**2,282.6083**	**50.2577**	**32.7647**	**0.0907**	**85.7832**	**2.1986**	**87.9584**	**11.9577**	**2.0227**	**13.9589**	**0.0000**	**9,079.9205**	**9,079.9205**	**1.9481**	**0.0000**	**9,103.6514**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Area	5.3904	6.7000e-004	0.0733	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1565	0.1565	4.2000e-004		0.1669
Energy	0.2224	2.0217	1.6983	0.0121		0.1537	0.1537		0.1537	0.1537		2,426.0841	2,426.0841	0.0465	0.0445	2,440.5011
Mobile	2.0189	14.9369	27.6098	0.1154	8.5987	0.0798	8.6785	2.3007	0.0749	2.3757		11,755.4468	11,755.4468	0.5136		11,768.2879
Total	**7.6317**	**16.9593**	**29.3814**	**0.1275**	**8.5987**	**0.2337**	**8.8324**	**2.3007**	**0.2288**	**2.5296**		**14,181.6874**	**14,181.6874**	**0.5606**	**0.0445**	**14,208.9559**

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	lb/day										lb/day					
Area	5.3904	6.7000e-004	0.0733	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1565	0.1565	4.2000e-004		0.1669
Energy	0.2224	2.0217	1.6983	0.0121		0.1537	0.1537		0.1537	0.1537		2,426.0841	2,426.0841	0.0465	0.0445	2,440.5011
Mobile	2.0189	14.9369	27.6098	0.1154	8.5987	0.0798	8.6785	2.3007	0.0749	2.3757		11,755.4468	11,755.4468	0.5136		11,768.2879
Total	**7.6317**	**16.9593**	**29.3814**	**0.1275**	**8.5987**	**0.2337**	**8.8324**	**2.3007**	**0.2288**	**2.5296**		**14,181.6874**	**14,181.6874**	**0.5606**	**0.0445**	**14,208.9559**

	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	6/17/2020	6/17/2020	5	1	
2	Site Preparation	Site Preparation	7/15/2020	7/15/2020	5	1	
3	Grading	Grading	7/29/2020	7/29/2020	5	1	
4	Building Construction	Building Construction	9/9/2020	9/9/2020	5	1	
5	Paving	Paving	11/3/2020	11/3/2020	5	1	
6	Architectural Coating	Architectural Coating	12/1/2020	12/1/2020	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 11.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 347,504; Non-Residential Outdoor: 115,835; Striped Parking Area: 29,015 (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
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	300.00	117.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	60.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

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	lb/day										lb/day					
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**		**1.6587**	**1.6587**		**1.5419**	**1.5419**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

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	lb/day										lb/day					
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
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
Worker	0.0763	0.0451	0.6048	1.6600e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		165.2392	165.2392	4.2400e-003		165.3451
Total	**0.0763**	**0.0451**	**0.6048**	**1.6600e-003**	**0.1677**	**1.0200e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**165.2392**	**165.2392**	**4.2400e-003**		**165.3451**

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	lb/day										lb/day					
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**		**1.6587**	**1.6587**		**1.5419**	**1.5419**	**0.0000**	**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

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	lb/day										lb/day					
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
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
Worker	0.0763	0.0451	0.6048	1.6600e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		165.2392	165.2392	4.2400e-003		165.3451
Total	**0.0763**	**0.0451**	**0.6048**	**1.6600e-003**	**0.1677**	**1.0200e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**165.2392**	**165.2392**	**4.2400e-003**		**165.3451**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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
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
Worker	0.0916	0.0542	0.7258	1.9900e-003	0.2012	1.2200e-003	0.2024	0.0534	1.1200e-003	0.0545		198.2870	198.2870	5.0800e-003		198.4141
Total	**0.0916**	**0.0542**	**0.7258**	**1.9900e-003**	**0.2012**	**1.2200e-003**	**0.2024**	**0.0534**	**1.1200e-003**	**0.0545**		**198.2870**	**198.2870**	**5.0800e-003**		**198.4141**

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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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
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
Worker	0.0916	0.0542	0.7258	1.9900e-003	0.2012	1.2200e-003	0.2024	0.0534	1.1200e-003	0.0545		198.2870	198.2870	5.0800e-003		198.4141
Total	**0.0916**	**0.0542**	**0.7258**	**1.9900e-003**	**0.2012**	**1.2200e-003**	**0.2024**	**0.0534**	**1.1200e-003**	**0.0545**		**198.2870**	**198.2870**	**5.0800e-003**		**198.4141**

3.4 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					85.5596	0.0000	85.5596	11.8984	0.0000	11.8984			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000		6,005.8653	6,005.8653	1.9424		6,054.4257
Total	**4.4501**	**50.1975**	**31.9583**	**0.0620**	**85.5596**	**2.1739**	**87.7335**	**11.8984**	**2.0000**	**13.8984**		**6,005.8653**	**6,005.8653**	**1.9424**		**6,054.4257**

3.4 Grading - 2020

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	lb/day										lb/day					
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
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
Worker	0.1018	0.0602	0.8064	2.2100e-003	0.2236	1.3500e-003	0.2249	0.0593	1.2500e-003	0.0605		220.3189	220.3189	5.6500e-003		220.4601
Total	**0.1018**	**0.0602**	**0.8064**	**2.2100e-003**	**0.2236**	**1.3500e-003**	**0.2249**	**0.0593**	**1.2500e-003**	**0.0605**		**220.3189**	**220.3189**	**5.6500e-003**		**220.4601**

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	lb/day										lb/day					
Fugitive Dust					85.5596	0.0000	85.5596	11.8984	0.0000	11.8984			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000	0.0000	6,005.865 3	6,005.865 3	1.9424		6,054.425 7
Total	**4.4501**	**50.1975**	**31.9583**	**0.0620**	**85.5596**	**2.1739**	**87.7335**	**11.8984**	**2.0000**	**13.8984**	**0.0000**	**6,005.865 3**	**6,005.865 3**	**1.9424**		**6,054.425 7**

3.4 Grading - 2020

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	lb/day										lb/day					
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
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
Worker	0.1018	0.0602	0.8064	2.2100e-003	0.2236	1.3500e-003	0.2249	0.0593	1.2500e-003	0.0605		220.3189	220.3189	5.6500e-003		220.4601
Total	**0.1018**	**0.0602**	**0.8064**	**2.2100e-003**	**0.2236**	**1.3500e-003**	**0.2249**	**0.0593**	**1.2500e-003**	**0.0605**		**220.3189**	**220.3189**	**5.6500e-003**		**220.4601**

3.5 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.3261	12.0383	2.2023	0.0306	0.7492	0.0685	0.8177	0.2157	0.0655	0.2812		3,222.0738	3,222.0738	0.2417		3,228.1156
Worker	1.5266	0.9029	12.0965	0.0332	3.3533	0.0203	3.3736	0.8893	0.0187	0.9080		3,304.7836	3,304.7836	0.0847		3,306.9014
Total	**1.8527**	**12.9412**	**14.2988**	**0.0637**	**4.1025**	**0.0888**	**4.1913**	**1.1050**	**0.0842**	**1.1892**		**6,526.8574**	**6,526.8574**	**0.3264**		**6,535.0169**

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.3261	12.0383	2.2023	0.0306	0.7492	0.0685	0.8177	0.2157	0.0655	0.2812		3,222.073 8	3,222.073 8	0.2417		3,228.1156
Worker	1.5266	0.9029	12.0965	0.0332	3.3533	0.0203	3.3736	0.8893	0.0187	0.9080		3,304.783 6	3,304.783 6	0.0847		3,306.901 4
Total	**1.8527**	**12.9412**	**14.2988**	**0.0637**	**4.1025**	**0.0888**	**4.1913**	**1.1050**	**0.0842**	**1.1892**		**6,526.857 4**	**6,526.857 4**	**0.3264**		**6,535.016 9**

3.6 Paving - 2020

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	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1
Paving	29.0820					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**30.4386**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**		**2,207.733 4**	**2,207.733 4**	**0.7140**		**2,225.584 1**

3.6 Paving - 2020

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	lb/day										lb/day					
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
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
Worker	0.0763	0.0451	0.6048	1.6600e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		165.2392	165.2392	4.2400e-003		165.3451
Total	**0.0763**	**0.0451**	**0.6048**	**1.6600e-003**	**0.1677**	**1.0200e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**165.2392**	**165.2392**	**4.2400e-003**		**165.3451**

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	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	29.0820					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**30.4386**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**	**0.0000**	**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

3.6 Paving - 2020

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	lb/day										lb/day					
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
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
Worker	0.0763	0.0451	0.6048	1.6600e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		165.2392	165.2392	4.2400e-003		165.3451
Total	**0.0763**	**0.0451**	**0.6048**	**1.6600e-003**	**0.1677**	**1.0200e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**165.2392**	**165.2392**	**4.2400e-003**		**165.3451**

3.7 Architectural Coating - 2020

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	lb/day										lb/day					
Archit. Coating	2,282.0608					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**2,282.3030**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.7 Architectural Coating - 2020

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	lb/day										lb/day					
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
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
Worker	0.3053	0.1806	2.4193	6.6400e-003	0.6707	4.0600e-003	0.6747	0.1779	3.7400e-003	0.1816		660.9567	660.9567	0.0169		661.3803
Total	**0.3053**	**0.1806**	**2.4193**	**6.6400e-003**	**0.6707**	**4.0600e-003**	**0.6747**	**0.1779**	**3.7400e-003**	**0.1816**		**660.9567**	**660.9567**	**0.0169**		**661.3803**

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	lb/day										lb/day					
Archit. Coating	2,282.0608					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**2,282.3030**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.7 Architectural Coating - 2020

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	lb/day										lb/day					
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
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
Worker	0.3053	0.1806	2.4193	6.6400e-003	0.6707	4.0600e-003	0.6747	0.1779	3.7400e-003	0.1816		660.9567	660.9567	0.0169		661.3803
Total	**0.3053**	**0.1806**	**2.4193**	**6.6400e-003**	**0.6707**	**4.0600e-003**	**0.6747**	**0.1779**	**3.7400e-003**	**0.1816**		**660.9567**	**660.9567**	**0.0169**		**661.3803**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	lb/day										lb/day					
Mitigated	2.0189	14.9369	27.6098	0.1154	8.5987	0.0798	8.6785	2.3007	0.0749	2.3757		11,755.4468	11,755.4468	0.5136		11,768.2879
Unmitigated	2.0189	14.9369	27.6098	0.1154	8.5987	0.0798	8.6785	2.3007	0.0749	2.3757		11,755.4468	11,755.4468	0.5136		11,768.2879

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	910.46	910.46	910.46	4,031,766	4,031,766
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	910.46	910.46	910.46	4,031,766	4,031,766

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
Manufacturing	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Other Asphalt Surfaces	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038

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	lb/day										lb/day					
NaturalGas Mitigated	0.2224	2.0217	1.6983	0.0121		0.1537	0.1537		0.1537	0.1537		2,426.0841	2,426.0841	0.0465	0.0445	2,440.5011
NaturalGas Unmitigated	0.2224	2.0217	1.6983	0.0121		0.1537	0.1537		0.1537	0.1537		2,426.0841	2,426.0841	0.0465	0.0445	2,440.5011

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	lb/day										lb/day					
Manufacturing	20621.7	0.2224	2.0217	1.6983	0.0121		0.1537	0.1537		0.1537	0.1537		2,426.0841	2,426.0841	0.0465	0.0445	2,440.5011
Other Asphalt Surfaces	0	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		**0.2224**	**2.0217**	**1.6983**	**0.0121**		**0.1537**	**0.1537**		**0.1537**	**0.1537**		**2,426.0841**	**2,426.0841**	**0.0465**	**0.0445**	**2,440.5011**

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	lb/day										lb/day					
Manufacturing	20.6217	0.2224	2.0217	1.6983	0.0121		0.1537	0.1537		0.1537	0.1537		2,426.0841	2,426.0841	0.0465	0.0445	2,440.5011
Other Asphalt Surfaces	0	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		**0.2224**	**2.0217**	**1.6983**	**0.0121**		**0.1537**	**0.1537**		**0.1537**	**0.1537**		**2,426.0841**	**2,426.0841**	**0.0465**	**0.0445**	**2,440.5011**

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	lb/day										lb/day					
Mitigated	5.3904	6.7000e-004	0.0733	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1565	0.1565	4.2000e-004		0.1669
Unmitigated	5.3904	6.7000e-004	0.0733	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1565	0.1565	4.2000e-004		0.1669

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	lb/day										lb/day					
Architectural Coating	0.6252					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.7583					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.8500e-003	6.7000e-004	0.0733	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1565	0.1565	4.2000e-004		0.1669
Total	**5.3904**	**6.7000e-004**	**0.0733**	**1.0000e-005**		**2.6000e-004**	**2.6000e-004**		**2.6000e-004**	**2.6000e-004**		**0.1565**	**0.1565**	**4.2000e-004**		**0.1669**

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	lb/day										lb/day					
Architectural Coating	0.6252					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.7583					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.8500e-003	6.7000e-004	0.0733	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1565	0.1565	4.2000e-004		0.1669
Total	**5.3904**	**6.7000e-004**	**0.0733**	**1.0000e-005**		**2.6000e-004**	**2.6000e-004**		**2.6000e-004**	**2.6000e-004**		**0.1565**	**0.1565**	**4.2000e-004**		**0.1669**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Hemet S2A Modular Factory (Ops)

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	231.67	1000sqft	5.32	231,669.00	0
Other Asphalt Surfaces	483.59	1000sqft	11.10	483,586.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - MIG Modeler: Phil Gleason

Land Use -

Construction Phase - Ops run - not for const emissions; see other model runs.

Vehicle Trips - Trip generation updated to reflect rate in TIA prepared for the project by Ganddini Group, Inc. (Table 2; 983 trips / 250 TSF = 3.93).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	NumDays	300.00	1.00
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	NumDays	30.00	1.00
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	PhaseEndDate	12/28/2021	12/1/2020
tblConstructionPhase	PhaseEndDate	11/2/2021	9/9/2020
tblConstructionPhase	PhaseEndDate	7/14/2020	6/17/2020
tblConstructionPhase	PhaseEndDate	9/8/2020	7/29/2020
tblConstructionPhase	PhaseEndDate	11/30/2021	11/3/2020
tblConstructionPhase	PhaseEndDate	7/28/2020	7/15/2020
tblConstructionPhase	PhaseStartDate	12/1/2021	12/1/2020
tblConstructionPhase	PhaseStartDate	11/3/2021	11/3/2020
tblGrading	AcresOfGrading	2.50	75.00
tblVehicleTrips	ST_TR	1.49	3.93
tblVehicleTrips	SU_TR	0.62	3.93
tblVehicleTrips	WD_TR	3.82	3.93

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	2,282.602 0	50.2598	32.6106	0.0861	85.7832	2.1986	87.9584	11.9577	2.0227	13.9589	0.0000	8,618.770 8	8,618.770 8	1.9473	0.0000	8,642.906 3
Maximum	**2,282.602 0**	**50.2598**	**32.6106**	**0.0861**	**85.7832**	**2.1986**	**87.9584**	**11.9577**	**2.0227**	**13.9589**	**0.0000**	**8,618.770 8**	**8,618.770 8**	**1.9473**	**0.0000**	**8,642.906 3**

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	lb/day										lb/day					
2020	2,282.602 0	50.2598	32.6106	0.0861	85.7832	2.1986	87.9584	11.9577	2.0227	13.9589	0.0000	8,618.770 8	8,618.770 8	1.9473	0.0000	8,642.906 3
Maximum	**2,282.602 0**	**50.2598**	**32.6106**	**0.0861**	**85.7832**	**2.1986**	**87.9584**	**11.9577**	**2.0227**	**13.9589**	**0.0000**	**8,618.770 8**	**8,618.770 8**	**1.9473**	**0.0000**	**8,642.906 3**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Area	5.3904	6.7000e-004	0.0733	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1565	0.1565	4.2000e-004		0.1669
Energy	0.2224	2.0217	1.6983	0.0121		0.1537	0.1537		0.1537	0.1537		2,426.0841	2,426.0841	0.0465	0.0445	2,440.5011
Mobile	1.7298	15.0466	23.5055	0.1065	8.5987	0.0804	8.6792	2.3007	0.0755	2.3763		10,869.3768	10,869.3768	0.5220		10,882.4264
Total	**7.3426**	**17.0690**	**25.2771**	**0.1187**	**8.5987**	**0.2344**	**8.8331**	**2.3007**	**0.2294**	**2.5302**		**13,295.6174**	**13,295.6174**	**0.5689**	**0.0445**	**13,323.0944**

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	lb/day										lb/day					
Area	5.3904	6.7000e-004	0.0733	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1565	0.1565	4.2000e-004		0.1669
Energy	0.2224	2.0217	1.6983	0.0121		0.1537	0.1537		0.1537	0.1537		2,426.0841	2,426.0841	0.0465	0.0445	2,440.5011
Mobile	1.7298	15.0466	23.5055	0.1065	8.5987	0.0804	8.6792	2.3007	0.0755	2.3763		10,869.3768	10,869.3768	0.5220		10,882.4264
Total	**7.3426**	**17.0690**	**25.2771**	**0.1187**	**8.5987**	**0.2344**	**8.8331**	**2.3007**	**0.2294**	**2.5302**		**13,295.6174**	**13,295.6174**	**0.5689**	**0.0445**	**13,323.0944**

	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	6/17/2020	6/17/2020	5	1	
2	Site Preparation	Site Preparation	7/15/2020	7/15/2020	5	1	
3	Grading	Grading	7/29/2020	7/29/2020	5	1	
4	Building Construction	Building Construction	9/9/2020	9/9/2020	5	1	
5	Paving	Paving	11/3/2020	11/3/2020	5	1	
6	Architectural Coating	Architectural Coating	12/1/2020	12/1/2020	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 11.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 347,504; Non-Residential Outdoor: 115,835; Striped Parking Area: 29,015 (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
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	300.00	117.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	60.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

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	lb/day										lb/day					
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**		**1.6587**	**1.6587**		**1.5419**	**1.5419**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

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	lb/day										lb/day					
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
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
Worker	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		148.2354	148.2354	3.6800e-003		148.3274
Total	**0.0748**	**0.0467**	**0.4893**	**1.4900e-003**	**0.1677**	**1.0200e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**148.2354**	**148.2354**	**3.6800e-003**		**148.3274**

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	lb/day										lb/day					
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.704 9	3,747.704 9	1.0580		3,774.153 6
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**		**1.6587**	**1.6587**		**1.5419**	**1.5419**	**0.0000**	**3,747.704 9**	**3,747.704 9**	**1.0580**		**3,774.153 6**

3.2 Demolition - 2020

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	lb/day										lb/day					
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
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
Worker	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		148.2354	148.2354	3.6800e-003		148.3274
Total	**0.0748**	**0.0467**	**0.4893**	**1.4900e-003**	**0.1677**	**1.0200e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**148.2354**	**148.2354**	**3.6800e-003**		**148.3274**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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
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
Worker	0.0897	0.0560	0.5871	1.7900e-003	0.2012	1.2200e-003	0.2024	0.0534	1.1200e-003	0.0545		177.8824	177.8824	4.4200e-003		177.9929
Total	**0.0897**	**0.0560**	**0.5871**	**1.7900e-003**	**0.2012**	**1.2200e-003**	**0.2024**	**0.0534**	**1.1200e-003**	**0.0545**		**177.8824**	**177.8824**	**4.4200e-003**		**177.9929**

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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.101 6	3,685.101 6	1.1918		3,714.897 5
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**	**0.0000**	**3,685.101 6**	**3,685.101 6**	**1.1918**		**3,714.897 5**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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
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
Worker	0.0897	0.0560	0.5871	1.7900e-003	0.2012	1.2200e-003	0.2024	0.0534	1.1200e-003	0.0545		177.8824	177.8824	4.4200e-003		177.9929
Total	**0.0897**	**0.0560**	**0.5871**	**1.7900e-003**	**0.2012**	**1.2200e-003**	**0.2024**	**0.0534**	**1.1200e-003**	**0.0545**		**177.8824**	**177.8824**	**4.4200e-003**		**177.9929**

3.4 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					85.5596	0.0000	85.5596	11.8984	0.0000	11.8984			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000		6,005.8653	6,005.8653	1.9424		6,054.4257
Total	**4.4501**	**50.1975**	**31.9583**	**0.0620**	**85.5596**	**2.1739**	**87.7335**	**11.8984**	**2.0000**	**13.8984**		**6,005.8653**	**6,005.8653**	**1.9424**		**6,054.4257**

3.4 Grading - 2020

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	lb/day										lb/day					
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
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
Worker	0.0997	0.0623	0.6524	1.9800e-003	0.2236	1.3500e-003	0.2249	0.0593	1.2500e-003	0.0605		197.6472	197.6472	4.9100e-003		197.7699
Total	**0.0997**	**0.0623**	**0.6524**	**1.9800e-003**	**0.2236**	**1.3500e-003**	**0.2249**	**0.0593**	**1.2500e-003**	**0.0605**		**197.6472**	**197.6472**	**4.9100e-003**		**197.7699**

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	lb/day										lb/day					
Fugitive Dust					85.5596	0.0000	85.5596	11.8984	0.0000	11.8984			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000	0.0000	6,005.8653	6,005.8653	1.9424		6,054.4257
Total	**4.4501**	**50.1975**	**31.9583**	**0.0620**	**85.5596**	**2.1739**	**87.7335**	**11.8984**	**2.0000**	**13.8984**	**0.0000**	**6,005.8653**	**6,005.8653**	**1.9424**		**6,054.4257**

3.4 Grading - 2020

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	lb/day										lb/day					
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
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
Worker	0.0997	0.0623	0.6524	1.9800e-003	0.2236	1.3500e-003	0.2249	0.0593	1.2500e-003	0.0605		197.6472	197.6472	4.9100e-003		197.7699
Total	**0.0997**	**0.0623**	**0.6524**	**1.9800e-003**	**0.2236**	**1.3500e-003**	**0.2249**	**0.0593**	**1.2500e-003**	**0.0605**		**197.6472**	**197.6472**	**4.9100e-003**		**197.7699**

3.5 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.3440	11.9753	2.5787	0.0294	0.7492	0.0693	0.8185	0.2157	0.0663	0.2820		3,101.000 3	3,101.000 3	0.2689		3,107.723 5
Worker	1.4951	0.9340	9.7852	0.0298	3.3533	0.0203	3.3736	0.8893	0.0187	0.9080		2,964.707 4	2,964.707 4	0.0736		2,966.548 3
Total	**1.8390**	**12.9093**	**12.3639**	**0.0592**	**4.1025**	**0.0896**	**4.1921**	**1.1050**	**0.0850**	**1.1900**		**6,065.707 7**	**6,065.707 7**	**0.3426**		**6,074.271 8**

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.063 1**	**2,553.063 1**	**0.6229**		**2,568.634 5**

3.5 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.3440	11.9753	2.5787	0.0294	0.7492	0.0693	0.8185	0.2157	0.0663	0.2820		3,101.000 3	3,101.000 3	0.2689		3,107.723 5
Worker	1.4951	0.9340	9.7852	0.0298	3.3533	0.0203	3.3736	0.8893	0.0187	0.9080		2,964.707 4	2,964.707 4	0.0736		2,966.548 3
Total	**1.8390**	**12.9093**	**12.3639**	**0.0592**	**4.1025**	**0.0896**	**4.1921**	**1.1050**	**0.0850**	**1.1900**		**6,065.707 7**	**6,065.707 7**	**0.3426**		**6,074.271 8**

3.6 Paving - 2020

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	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1
Paving	29.0820					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**30.4386**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**		**2,207.733 4**	**2,207.733 4**	**0.7140**		**2,225.584 1**

3.6 Paving - 2020

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	lb/day										lb/day					
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
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
Worker	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		148.2354	148.2354	3.6800e-003		148.3274
Total	**0.0748**	**0.0467**	**0.4893**	**1.4900e-003**	**0.1677**	**1.0200e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**148.2354**	**148.2354**	**3.6800e-003**		**148.3274**

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	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	29.0820					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**30.4386**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**	**0.0000**	**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

3.6 Paving - 2020

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	lb/day										lb/day					
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
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
Worker	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		148.2354	148.2354	3.6800e-003		148.3274
Total	**0.0748**	**0.0467**	**0.4893**	**1.4900e-003**	**0.1677**	**1.0200e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**148.2354**	**148.2354**	**3.6800e-003**		**148.3274**

3.7 Architectural Coating - 2020

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	lb/day										lb/day					
Archit. Coating	2,282.0608					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**2,282.3030**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.7 Architectural Coating - 2020

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	lb/day										lb/day					
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
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
Worker	0.2990	0.1868	1.9570	5.9500e-003	0.6707	4.0600e-003	0.6747	0.1779	3.7400e-003	0.1816		592.9415	592.9415	0.0147		593.3097
Total	**0.2990**	**0.1868**	**1.9570**	**5.9500e-003**	**0.6707**	**4.0600e-003**	**0.6747**	**0.1779**	**3.7400e-003**	**0.1816**		**592.9415**	**592.9415**	**0.0147**		**593.3097**

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	lb/day										lb/day					
Archit. Coating	2,282.0608					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**2,282.3030**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.7 Architectural Coating - 2020

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	lb/day										lb/day					
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
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
Worker	0.2990	0.1868	1.9570	5.9500e-003	0.6707	4.0600e-003	0.6747	0.1779	3.7400e-003	0.1816		592.9415	592.9415	0.0147		593.3097
Total	**0.2990**	**0.1868**	**1.9570**	**5.9500e-003**	**0.6707**	**4.0600e-003**	**0.6747**	**0.1779**	**3.7400e-003**	**0.1816**		**592.9415**	**592.9415**	**0.0147**		**593.3097**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	lb/day										lb/day					
Mitigated	1.7298	15.0466	23.5055	0.1065	8.5987	0.0804	8.6792	2.3007	0.0755	2.3763		10,869.3768	10,869.3768	0.5220		10,882.4264
Unmitigated	1.7298	15.0466	23.5055	0.1065	8.5987	0.0804	8.6792	2.3007	0.0755	2.3763		10,869.3768	10,869.3768	0.5220		10,882.4264

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	910.46	910.46	910.46	4,031,766	4,031,766
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	910.46	910.46	910.46	4,031,766	4,031,766

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
Manufacturing	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038
Other Asphalt Surfaces	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038

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	lb/day										lb/day					
NaturalGas Mitigated	0.2224	2.0217	1.6983	0.0121		0.1537	0.1537		0.1537	0.1537		2,426.0841	2,426.0841	0.0465	0.0445	2,440.5011
NaturalGas Unmitigated	0.2224	2.0217	1.6983	0.0121		0.1537	0.1537		0.1537	0.1537		2,426.0841	2,426.0841	0.0465	0.0445	2,440.5011

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	lb/day										lb/day					
Manufacturing	20621.7	0.2224	2.0217	1.6983	0.0121		0.1537	0.1537		0.1537	0.1537		2,426.0841	2,426.0841	0.0465	0.0445	2,440.5011
Other Asphalt Surfaces	0	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		**0.2224**	**2.0217**	**1.6983**	**0.0121**		**0.1537**	**0.1537**		**0.1537**	**0.1537**		**2,426.0841**	**2,426.0841**	**0.0465**	**0.0445**	**2,440.5011**

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	lb/day										lb/day					
Manufacturing	20.6217	0.2224	2.0217	1.6983	0.0121		0.1537	0.1537		0.1537	0.1537		2,426.0841	2,426.0841	0.0465	0.0445	2,440.5011
Other Asphalt Surfaces	0	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		**0.2224**	**2.0217**	**1.6983**	**0.0121**		**0.1537**	**0.1537**		**0.1537**	**0.1537**		**2,426.0841**	**2,426.0841**	**0.0465**	**0.0445**	**2,440.5011**

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	lb/day										lb/day					
Mitigated	5.3904	6.7000e-004	0.0733	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1565	0.1565	4.2000e-004		0.1669
Unmitigated	5.3904	6.7000e-004	0.0733	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1565	0.1565	4.2000e-004		0.1669

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	lb/day										lb/day					
Architectural Coating	0.6252					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.7583					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.8500e-003	6.7000e-004	0.0733	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1565	0.1565	4.2000e-004		0.1669
Total	**5.3904**	**6.7000e-004**	**0.0733**	**1.0000e-005**		**2.6000e-004**	**2.6000e-004**		**2.6000e-004**	**2.6000e-004**		**0.1565**	**0.1565**	**4.2000e-004**		**0.1669**

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	lb/day										lb/day					
Architectural Coating	0.6252					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.7583					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.8500e-003	6.7000e-004	0.0733	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1565	0.1565	4.2000e-004		0.1669
Total	**5.3904**	**6.7000e-004**	**0.0733**	**1.0000e-005**		**2.6000e-004**	**2.6000e-004**		**2.6000e-004**	**2.6000e-004**		**0.1565**	**0.1565**	**4.2000e-004**		**0.1669**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Attachment 3

Fuel Consumption Estimate Spreadsheets

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Energy Appendix: Fuel Consumption Estimations
Hemet S2A Modular Factory
Hemet, CA
Prepared by MIG, Inc. June 2020

Sheet 1: Construction and Operational Fuel Consumption Summary

Table 1: Construction Fuel Consumption

Activity	Gasoline	Diesel
On-site	-	82072.53
Off-site	40,280	25,294
Total	40,280	107,367

Table 2: Operational Fuel Consumption

Trip Type	Gasoline	Diesel
Project Totals	139,053	0

Sheet 2: Construction On-site Fuel Consumption Estimations

Table 1: On-site Fuel Consumption Summary

Phase	Quantity of Diesel (gal)
1	50,478
2	31,594
Total	82,073

Table 2: Phase 1 On-site Construction Fuel Consumption Estimates

Phase	Days	Equipment	# of Pieces	Hr/Day	Horsepower	Load Factor	Runtime (bhp-hr)	Consumption (bhp-hr/gal)[1]	Gallons of Diesel
Grading	21	Excavators	3	7.6	158	0.38	28,747	18.5	1,554
		Graders	2	5.7	187	0.41	18,355		992
		Rubber Tired Dozers	2	5.7	247	0.40	23,653		1,279
		Scrapers	3	7.6	367	0.48	84,345		4,559
		Tractors/Loaders/Backhoes	3	7.6	97	0.37	17,184		929
Building Construction	88	Cranes	4	6.0	231	0.29	141,483		7,648
		Forklifts	11	7.4	89	0.20	127,505		6,892
		Generator Sets	4	7.4	84	0.74	161,914		8,752
		Tractors/Loaders/Backhoes	11	6.8	97	0.37	236,242		12,770
		Welders	4	6.5	46	0.45	47,362		2,560
Paving	11	Pavers	4	7.3	130	0.42	17,538		948
		Paving Equipment	4	7.3	132	0.36	15,263		825
		Rollers	4	7.3	80	0.38	9,764		528
Architectural Coating	10	Air Compressors	2	6.0	78	0.48	4,493		243
								Total	50,478

[1] The Carl Moyer Program Guidelines 2017 Revisions. Table D-21. Approved by the Board April 27, 2017.

Table 3: Phase 2 On-site Construction Fuel Consumption Estimates

Phase	Days	Equipment	# of Pieces	Hr/Day	Horsepower	Load Factor	Runtime (bhp-hr)	Consumption (bhp-hr/gal)[1]	Gallons of Diesel
Grading	8	Excavators	1	1.0	158	0.38	480	18.5	26
		Graders	1	1.0	187	0.41	613		33
		Rubber Tired Dozers	1	1.0	247	0.40	790		43
		Tractors/Loaders/Backhoes	3	3.0	97	0.37	2,584		140
Building Construction	65	Cranes	4	6.2	231	0.29	107,988		5,837
		Forklifts	11	7.7	89	0.20	97,998		5,297
		Generator Sets	4	7.1	84	0.74	114,747		6,203
		Tractors/Loaders/Backhoes	10	7.4	97	0.37	172,631		9,331
		Welders	4	7.1	46	0.45	38,212		2,066
Paving	18	Cement and Mortar Mixers	2	6.0	9	0.56	1,089		59
		Pavers	1	8.0	130	0.42	7,862		425
		Paving Equipment	2	6.0	132	0.36	10,264		555
		Rollers	4	7.3	80	0.38	15,978		864
		Tractors/Loaders/Backhoes	1	8.0	97	0.37	5,168		279
Architectural Coating	18	Air Compressors	2	6.0	78	0.48	8,087		437
								Total	31,594

[1] The Carl Moyer Program Guidelines 2017 Revisions. Table D-21. Approved by the Board April 27, 2017.

Sheet 3: Construction Off-site Fuel Consumption Estimates

Table 1: On-site Fuel Consumption Summary

Phase	Quantity of Gasoline (gal)	Quantity of Diesel (gal)
1	35,781	19,675
2	4,499	5,620
Total	40,280	25,294

Table 2: Phase 1 Off-site Construction Fuel Consumption Estimates

Phase	Days	Number of Trips	Dist (mi)	Total VMT	Vehicle Class	% of Workers by Vehcile Class	Gasoline Average Fuel Economy (MPG)	Gasoline Fuel Split	Gasoline Fuel Consumption by Class (gal)	Gasoline Fuel Consumption by Phase (gal)	Diesel Average Fuel Economy (MPG)	Diesel Fuel Split	Diesel Fuel Consumption by Class (gal)	Diesel Fuel Consumption by Phase (gal)
Worker Trips														
Grading	21	48	14.7	14818	LDA	0.5	31.3	99.1%	234	521	50.9	0.9%	1	2
					LDT1	0.25	26.7	99.9%	139		25.4	0.1%	0	
					LDT2	0.25	24.9	99.5%	148		38.1	0.5%	1	
Building Construction	88	723	14.7	935273	LDA	0.5	31.3	99.1%	14,792	32,898	50.9	0.9%	84	121
					LDT1	0.25	26.7	99.9%	8,764		25.4	0.1%	5	
					LDT2	0.25	24.9	99.5%	9,342		38.1	0.5%	32	
Paving	11	55	14.7	8893.5	LDA	0.5	31.3	99.1%	141	313	50.9	0.9%	1	1
					LDT1	0.25	26.7	99.9%	83		25.4	0.1%	0	
					LDT2	0.25	24.9	99.5%	89		38.1	0.5%	0	
Architectural Coating	10	84	14.7	12348	LDA	0.5	31.3	99.1%	195	434	50.9	0.9%	1	2
					LDT1	0.25	26.7	99.9%	116		25.4	0.1%	0	
					LDT2	0.25	24.9	99.5%	123		38.1	0.5%	0	
Sub-Total Worker Trips Energy Consumption									Gasoline (gal)	34,167			Diesel (gal)	126
Vendor Trips														
Building Construction	88	283	6.9	171838	MHDT	0.5	5.2	0.1	1,615	1,615	10.8	0.9	7,194	19,549
					HHDT	0.5	N/A	0.0%	N/A		7.0	100.0%	12,355	
Total On-Road Construction Trips Genergy Usage									**Gasoline (gal)**	**35,781**			**Diesel (gal)**	**19,675**

Table 3: Phase 1 Off-site Construction Fuel Consumption Estimates

Phase	Days	Number of Trips	Dist (mi)	Total VMT	Vehicle Class	% of Workers by Vehcile Class	Gasoline Average Fuel Economy (MPG)	Gasoline Fuel Split	Gasoline Fuel Consumption by Class (gal)	Gasoline Fuel Consumption by Phase (gal)	Diesel Average Fuel Economy (MPG)	Diesel Fuel Split	Diesel Fuel Consumption by Class (gal)	Diesel Fuel Consumption by Phase (gal)
Worker Trips														
Grading	8	15	14.7	1764	LDA	0.5	31.3	99.1%	28	62	50.9	0.9%	0	0
					LDT1	0.25	26.7	99.9%	17		25.4	0.1%	0	
					LDT2	0.25	24.9	99.5%	18		38.1	0.5%	0	
Building Construction	65	108	14.7	103194	LDA	0.5	31.3	99.1%	1,632	3,630	50.9	0.9%	9	13
					LDT1	0.25	26.7	99.9%	967		25.4	0.1%	1	
					LDT2	0.25	24.9	99.5%	1,031		38.1	0.5%	4	
Paving	18	15	14.7	3969	LDA	0.5	31.3	99.1%	63	140	50.9	0.9%	0	1
					LDT1	0.25	26.7	99.9%	37		25.4	0.1%	0	
					LDT2	0.25	24.9	99.5%	40		38.1	0.5%	0	
Architectural Coating	18	22	14.7	5821.2	LDA	0.5	31.3	99.1%	92	205	50.9	0.9%	1	1
					LDT1	0.25	26.7	99.9%	55		25.4	0.1%	0	
					LDT2	0.25	24.9	99.5%	58		38.1	0.5%	0	
Sub-Total Worker Trips Energy Consumption									Gasoline (gal)	4,036			Diesel (gal)	15
Vendor Trips														
Building Construction	170	42	6.9	49266	MHDT	0.5	5.2	9.7%	463	463	10.8	90.3%	2,062	5,605
					HHDT	0.5	N/A	0.0%	N/A		7.0	100.0%	3,542	
Total On-Road Construction Trips Genergy Usage									**Gasoline (gal)**	**4,499**			**Diesel (gal)**	**5,620**

Sheet 4: Operational Fuel Consumption

Table 1: Fuel Consumption Characteristics for Riverside-South Coast (2021)

Fuel	Characteristic	
	% of VMT	MPG
Gasoline	91.1%	26.4
Diesel	8.9%	9.7

Source: EMFAC2017

Table 2: Project Annual Fuel Consumption

Fuel Type	Annual VMT	Consumption
Gasoline	4,031,766	139,053
Diesel		37,011

Source: CalEEMod, Section 4.2 (see Appendix A)

Hernandez Environmental Services

GENERAL BIOLOGICAL ASSESSMENT AND WESTERN RIVERSIDE COUNTY MSHCP CONSISTENCY ANALYSIS FOR APNs 439-030-009 & 439-030-010 CITY OF HEMET COUNTY OF RIVERSIDE, CALIFORNIA

Prepared for:

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JUNE 2019

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FIGURES

APPENDICES

1.0 Introduction

HES was contracted to prepare a general biological assessment (GBA) and Western Riverside County MSHCP consistency analysis for Riverside County Assessor's Parcel Numbers (APNs) 439-030-009 and 439-030-010. The project area consists of approximately 26.22 acres located northwest of the intersection of North State Street and Crows Nest Place in the city of Hemet, Riverside County, California.

1.1 Project Site Location

The project area is located at the northwest corner of North State Street and Crows Nest Place at 1321 and 1255 North State Street in the city of Hemet, Riverside County, California. The project area consists of Riverside County APNs 439-030-009 and 439-030-010. Specifically, the project area is located within the San Jacinto Viejo Land Grant of the *San Jacinto* United States Geological Survey (USGS) 7.5' topographic quadrangle. The center point latitude and longitude for the project area are 33°46'09.70" North and 116°58'28.04" West (Figures 1 and 2).

1.2 Project Description

The proposed project includes the construction of the S^2A Modular Manufacturing Plant including associated offices, parking areas, and walkways (Figure 3).

2.0 Methodology

2.1 Literature Review

HES conducted a literature review and reviewed aerial photographs and topographic maps of the project sites and surrounding areas. A five-mile radius was used to identify sensitive species with the California Natural Diversity Data Base (CNDDB), the U.S. Fish and Wildlife Service (USFWS) Endangered Species Lists, and the California Native Plant Society (CNPS) rare plant lists to obtain species information for the project area. The CNDDB and USFWS critical habitat databases were utilized, together with Geographic Information System (GIS) software, to locate the previously recorded locations of sensitive plant and wildlife occurrences and designated critical habitat and determine the distance from the project sites. Additionally, the Western Riverside County MSHCP was reviewed for information on known occurrences of sensitive species within Riverside County.

2.1.1 Western Riverside County MSHCP

The Western Riverside County MSHCP is a comprehensive, multijurisdictional habitat conservation planning program for western Riverside County, California. The purpose of the Western Riverside County MSHCP is to preserve native habitats, and to this end, the plan focuses upon the habitat needs of multiple species rather than one species at a time. The Western

Riverside County MSHCP provides coverage/take authorization for some species listed under the federal or state Endangered Species Act (ESA) as well as non-listed special-status plant and wildlife species. It also provides mitigation for impacts to special-status species and their associated habitats.

Through agreements with the USFWS and California Department of Fish and Wildlife (CDFW), 146 listed and special-status plant and animal species receive some level of coverage under the Western Riverside County MSHCP. Of the 146 covered species, the majority have no additional survey needs or conservation requirements. Furthermore, the Western Riverside County MSHCP provides mitigation for project-specific impacts to these species, thereby reducing the degree of impact to below a level of significance, pursuant to the California Environmental Quality Act (CEQA).

Several of the species covered under the Western Riverside County MSHCP have additional survey requirements. These include the riparian communities and associated species addressed in Section 6.1.2 of the Western Riverside County MSHCP document ("Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools"), plants identified in Section 6.1.3 ("Narrow Endemic Plant Species"); and plants and animal species addressed in Section 6.3.2 ("Additional Survey Needs and Procedures").

2.1.2 Project Relationship to the Western Riverside County MSHCP

The project area is located within the Western Riverside County MSHCP boundaries. The County of Riverside, acting as the lead agency for the proposed project, is a permittee under the Western Riverside County MSHCP and, therefore, is afforded coverage under the state or federal ESAs for impacts to listed species covered by the plan. The County is required to document consistency with the Western Riverside County MSHCP in conjunction with any discretionary approvals for the project. As such, this report was prepared to provide all necessary information required to determine project consistency with the Western Riverside County MSHCP.

The project area is located within Western Riverside County MSHCP San Jacinto Valley Area Plan and is not located within an Area Plan Subunit, Criteria Cell, or Cell Group. Further, the project area is not located within plan-defined areas requiring surveys for narrow endemic plant species, or criteria area plant species. However, the project area is located within plan defined-areas requiring surveys for burrowing owl (*Athene cunicularia*).

A habitat assessment conducted for burrowing owl determined that the project area provides suitable habitat for the species. Therefore, focused burrowing owl surveys were conducted for the project area. Although the project site supports fossorial mammal burrows, rock outcrops, and non-natural substrates capable of supporting BUOW, no BUOW or BUOW sign was observed at the entrance or adjacent to these burrows within the study area. Despite systematic searches of the project site and 150-meter buffer area, no BUOW or evidence (i.e., including scat, pellets, feathers, tracks, and prey remains) were found which suggest recent or historical use of the study area by BUOW. Therefore, it can be concluded that BUOW are not currently present within the study area.

2.2 Field Survey

On March 20, 2019, HES biologist Juan Hernandez conducted a field survey of the entire 26.22-acre project area. The ambient temperature at 7:00 a.m. was 51 degrees Fahrenheit, sunny, with winds ranging from zero to three miles per hour from the southwest. The purpose of the field survey was to document the existing habitat conditions, obtain plant and animal species information, view the surrounding land uses, assess the potential for state and federal waters, assess the potential for wildlife movement corridors, and assess the presence of constituent elements for critical habitat, if present.

Linear transects spaced approximately 50 to 100 feet apart were walked across the project area for 100 percent coverage. All species observed were recorded. Global Positioning System (GPS) waypoints were taken to delineate specific habitat types, species locations, state or federal waters, and any other information that would be useful for the assessment of the project area. A comprehensive list of all plant and wildlife species that were detected during the field survey within the project area is included in Appendix A. Sensitive plant and wildlife species with the potential to occur within the project area are listed in Appendix B. Representative site photographs were taken and are included within Appendix C.

3.0 Existing Conditions and Results

3.1 Environmental Setting

The project area is located within the city of Hemet, Riverside County, California. The project area is undeveloped, relatively flat, and disturbed. Surrounding land uses include commercial developments and the San Jacinto Park to the north, undeveloped land to the east, commercial and residential developments to the south, and residential developments to the west. Elevations on the project area range from 1,536 feet above mean sea-level (AMSL) to 1,556 AMSL.

3.2 Soils

According to the United States Department of Agriculture (USDA) Web Soil Survey, six soil types occur on the project sites (Appendix G). The soils at the project sites are classified as:

- Chino silt loam (Cf), drained, saline-alkali;
- Grangeville fine sandy loam (GtA), drained, 0 to 2 percent slopes;
- Metz loamy fine sand (MhB), sandy loam substratum, 0 to 5 percent slopes;

- San Emigdio fine sandy loam (SeA), 0 to 2 percent slopes, occasional frost;
- San Emigdio fine sandy loam (SeD2), 8 to 15 percent slopes, eroded; and
- San Emigdio fine sandy loam (SfA), deep, 0 to 2 percent slopes.

3.3 Plant and Habitat Communities

The project area is undeveloped, relatively flat, and heavily disturbed. The area is characterized by one habitat type: ruderal.

Ruderal/Disturbed

The project area contains approximately 26.22 acres of ruderal/disturbed habitat. The ruderal areas on the area are dominated by non-native plant species. Dominant vegetation observed in this habitat type includes ripgut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), black mustard (*Brassica nigra*), Russian thistle (*Salsola tragus*), London rocket (*Sisymbrium irio*), and filaree (*Erodium sp.*).

3.4 Wildlife

General wildlife species documented on the project areas or within the vicinity include, red-tailed hawk (*Buteo jamaicensis),* house finch (*Carpodacus mexicanus),* American crow (*Corvus brachyrhynchos),* western fence lizard (*Sceloporus occidentalis*), common raven (*Corvus corax*), California ground squirrel (*Otospermophilus beecheyi*), and western kingbird (*Tyrannus verticalis*). The complete list of species observed is included as Appendix A.

3.5 Regional Connectivity/Wildlife Movement

Wildlife movement corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbances. The project area was evaluated for its function as a wildlife corridor that species would use to move between wildlife habitat zones. The project area is relatively flat and surrounded by commercial and residential structures. No wildlife movement corridors were found to be present on the project sites.

3.6 Sensitive Biological Resources

According to the CNDDB, a total of 43 sensitive species of plants, 7 sensitive habitats, and 55 sensitive species of animals have the potential to occur on or within the vicinity of the project area. These include those species listed or candidates for listing by the U. S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW) and California Native Plant Society (CNPS). All habitats with the potential to be used by sensitive species were evaluated during the site visit and a determination has been made for the presence or probability of presence within this report. This section will address those species listed as Candidate, Rare, Threatened, or Endangered under the state and federal endangered species laws or directed to be evaluated under the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). Sensitive species which have a potential to occur will also be discussed in this section. Other special status species are addressed within Appendix B.

3.6.1 Sensitive Plant Resources

A total of 15 plant species are listed as state and/or federal Threatened, Endangered, or Candidate species; are required to be reviewed under the Narrow Endemic Plant section of the Western Riverside MSHCP; are 1B.1 listed plants on the CNPS Rare Plan Inventory; or have been found to have a potential to exist on the project sites. A total of seven sensitive habitats have the potential to exist on the project sites. Below are descriptions of these species, followed by these habitats:

Chaparral sand-verbena
Chaparral sand-verbena (*Abronia villosa var. aurita*) is ranked 1B.1 in the CNPS rare plant inventory. It is found in sandy areas of chaparral, coastal scrub, and desert dunes habitats. No habitat for this species is present on the project sites. **This species is not present.**

Munz's onion
Munz's onion (*Allium munzii*) is a federally endangered, state threatened, and CNPS 1B.1 listed plant. It is found in chaparral, coastal scrub, valley and foothill grasslands, cismontane woodland, and pinyon and juniper woodland. It is commonly found in heavy clay soils. No habitat for this species is present on the project sites. **This species is not present.**

Coachella Valley milk-vetch
Coachella Velley milk-vetch (*Astragalus lentiginosus var. coachellae*) is a federally listed endangered species and is ranked 1B.2 in the CNPS rare plant inventory. It is typically found in sandy flats, washes, outwash fans, and on dunes. Its habitat includes desert dunes and Sonoran desert scrub. No habitat for this species is present on the project sites. **This species is not present.**

Jaeger's milk-vetch
Jaeger's milk-vetch (*Astragalus pachypus var. jaegeri*) is ranked 1B.1 in the CNPS rare plant inventory. It is often found in dry ridges and valleys, and open sandy slopes. Its habitat includes coastal scrub, chaparral, valley and foothill grassland, and cismontane woodland. No habitat for this species is present on the project sites. **This species is not present.**

San Jacinto Valley crownscale

San Jacinto Valley crownscale (*Atriplex coronata var. notatior*) is a federally listed endangered species and is ranked 1B.1 in the CNPS rare plant inventory. Its habitat includes playas, valley and foothill grassland, and vernal pools. It is commonly found in the alkaline areas in the San Jacinto River Valley. No habitat for this species is present on the project sites. **This species is not present.**

Parish's brittlescale

Parish's brittlescale (*Atriplex parishii*) is ranked 1B.1 in the CNPS rare plant inventory. Its habitat includes shadescale scrub, alkali sink, riparian, playas, vernal pools and wetland. It is usually found on drying alkali flats with fine soils. No habitat for this species is present on the project sites. **This species is not present.**

Thread-leaved brodiaea

The thread-leaved brodiaea (*Brodiaea filifolia*) is a federally threatened, state endangered, and a CNPS 1B.1 listed plant. This species is usually associated with annual grassland and vernal pools and is often surrounded by shrubland habitats. Its habitats include chaparral, cismontane woodlands, coastal sage scrub, valley and foothill grasslands, vernal pools and wetland. No habitat for this species is present on the project sites. **This species is not present.**

Smooth tarplant

Smooth tarplant (*Centromadia pungens ssp. laevis*) is ranked 1B.1 in the CNPS rare plant inventory. Its habitat includes alkali playa, chenopod scrub, meadows and seeps, riparian woodlands, wetlands, and valley and foothill grasslands. It is most commonly found in alkali meadow, alkali scrub, and disturbed habitat. No habitat for this species is present on the project sites. **This species is not present.**

Parry's spineflower

Parry's spineflower (*Chorizanthe parryi var. parryi*) is ranked 1B.1 in the CNPS rare plant inventory. The species occurs in dry, sandy soils on dry slopes and flats, sometimes at the interface of two vegetations types, such as chaparral and oak woodland. Its habitat includes coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. No habitat for this species is present on the project sites. **This species is not present.**

Mojave tarplant

Mojave tarplant (*Deinandra mohavensis*) is a state listed endangered species and is ranked 1B.3 in the CNPS rare plant inventory. This species is typically found in low sand bars in river beds and most commonly in riparian or ephemeral grassy areas. Its habitat includes chaparral, coastal scrub, and riparian scrub. No habitat for this species is present on the project sites. **This species is not present.**

Slender-horned spineflower
Slender-horned spineflower (*Dodecahema leptoceras*) is a federally and state listed endangered species and is ranked 1B.1 in the CNPS rare plant inventory. This species is typically found near flood deposited terraces and washes. Its habitat includes chaparral, cismontane woodland, and coastal scrub (alluvial fan sage scrub). No habitat for this species is present on the project sites. **This species is not present.**

Mesa horkelia
Mesa horkelia (*Horkelia cuneate var. puberula*) is ranked 1B.1 in the CNPS rare plant inventory. It is typically found in sandy or gravelly sites. Its habitat includes chaparral, cismontane woodland, and coastal scrub. No habitat for this species is present on the project sites. **This species is not present.**

Coulter's goldfields
Coulter's goldfields (*Lasthenia glabrata ssp.coulteri*) is ranked 1B.1 in the CNPS rare plant inventory. Its habitat includes alkali playas, marsh, swamp, salt marsh, vernal pool, and wetland. It is usually found on alkaline soils in playas, sinks, and grasslands. No habitat for this species is present on the project sites. **This species is not present.**

Spreading navarretia
Spreading navarretia (*Navarretia fossalis*) is a federally listed threatened species and is ranked 1B.1 in the CNPS rare plant inventory. Its habitat includes alkali playa, chenopod scrub, marsh and swamp, vernal pools, and wetlands. This species is typically found in swales and vernal pools, often surrounded by other habitat types. No habitat for this species is present on the project sites. **This species is not present.**

California Orcutt grass
California Orcutt grass (*Orcuttia californica*) is a federal and state endangered species. It is ranked 1B.1 in the CNPS rare plant inventory. It is found in vernal pools. No habitat for this species is present on the project sites. **This species is not present.**

Sensitive Habitats
A total of 7 sensitive habitats have the potential to occur including Canyon Live Oak Ravine Forest, Desert Fan Palm Oasis Woodland, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Mixed Riparian Forest, Southern Riparian Scrub, and Southern Sycamore Alder Riparian Woodland. None of these sensitive habitats were found to occur within the project area.

3.6.2 Sensitive Animal Resources

A total of 18 animal species listed as state and/or federal Threatened, Endangered, Candidate will be reviewed in this section. Sensitive species which have a potential to occur will also be discussed in this section. All sensitive species within a 5-mile radius of project area were reviewed and a complete list of those species are discussed within Appendix B. Below are descriptions of these species:

Tricolored blackbird
Tricolored blackbird (*Agelaius tricolor)* is a state listed candidate endangered species and listed by the CDFW as a species of special concern. Its habitat includes freshwater marsh, marsh and swamp, swamp, and wetland. This species is largely endemic to California and is most numerous in and around Central Valley. This species requires open accessible water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony. There is no habitat for this species on the project sites. **This species is not present.**

Arroyo Toad
Arroyo Toad (*Anaxyrus californicus*) is a federally listed endangered species and a CDFW Species of Special Concern. The most favorable breeding habitat for this species consists of slow-moving shallow pools, nearby sandbars, and adjacent stream terraces. Its habitat includes desert wash, riparian scrub, riparian woodland, south coast flowing waters, and south coast standing waters. There is no habitat for this species on the project sites. **This species is not present.**

Coastal whiptail
The coastal whiptail (*Aspidoscelis tigris stejnegeri)* is a CDFW Species of Special Concern. It is typically found in hot, dry, flat open spaces in deserts or semi-arid areas where the ground is sandy, rocky, or firm soil. There is potential habitat for this species to be present on the project sites. **Potential to be present.**

Burrowing owl
Burrowing owl (*Athene cunicularia*) is a CDFW Species of Special Concern. Its habitat includes coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, and valley and foothill grassland. This species is typically found in open and dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. It is a subterranean nester and is dependent upon burrowing mammals, most notably the California ground squirrel. There is potential habitat for this species to be present on the project site. However, based on focused burrowing owl surveys, **this species is not present.**

Vernal pool fairy shrimp

Vernal pool fairy shrimp (*Branchinecta lynchi*) is a federally listed threatened species. This species is found in seasonal pools of water in valley and foothill grasslands. This species typically inhabits small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools. The project sites do not contain suitable habitat for this species. **This species is not present.**

Southern rubber boa

Southern-rubber boa (*Charina umbratical*) is a state listed threatened species. Its habitat includes meadow and seep, riparian forest, riparian woodland, upper montane coniferous forest, and wetland. This species is typically found near streams or wet meadows, and requires loose, moist soil for burrowing. It seeks cover in rotting logs, rock outcrops, and under surface litter. It is known to be found in the San Bernardino and San Jacinto mountains and has been reported to be found in other areas, but further research is required. The project sites do not contain suitable habitat for this species. **This species is not present.**

Western yellow-billed cuckoo

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a federally listed threatened and state listed endangered species. This species typically nests in riparian jungles of willows, often mixed with cottonwoods, with a lower story of blackberry, nettles, or wild grape. It is found in riparian forest habitat. The project sites do not contain suitable habitat for this species. **This species is not present.**

San Bernardino kangaroo rat

San Bernardino kangaroo rat (*Dipodomys merriami parvus*) is a federally listed endangered species and a CDFW Species of Special Concern. It is found in coastal scrub habitat. This species is found in alluvial scrub vegetation on sandy loam substrates, characteristic of alluvial fans and flood plains. It needs early to intermediate seral stages. The project sites do not contain suitable habitat for this species. **This species is not present.**

Stephen's kangaroo rat

Stephens' kangaroo rat (*Dipodomys stephensi*) is a federally listed endangered and state listed threatened species. This species is found in coastal sage scrub with sparse vegetation cover, and in valley and foothill grasslands. This species prefers buckwheat, chamise, brome grass, and filaree, and will burrow into firm soil. The project sites do not contain suitable habitat for this species. **This species is not present.**

Southwestern willow flycatcher

Southwestern willow flycatcher (*Empidonax traillii extimus*) is a federally and state listed endangered species. It is found in riparian woodland habitat in southern California. The project sites do not contain suitable habitat for this species. **This species is not present.**

California horned lark

California horned lark (*Eremophila alpestris actia*) is listed on the CDFW Watch List. It is found in coastal regions, chiefly from Sonoma County to San Diego County, as well as in parts of the San Joaquin Valley and east to foothills. This species is found in areas with short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, and/or alkali flats. Its habitat includes marine intertidal and splash zone communities, and meadow and seep. There is potential habitat for this species to be present on the project sites. **Potential to be present.**

Quino checkerspot butterfly

Quino checkerspot butterfly (*Euphydryas editha quino*) is a federally listed endangered species. It is found in chaparral and coastal sage scrub. This species requires high densities of food plants, including *Plantago erecta*, *P. insularis*, and *Orthocarpus purpurescens*. The project sites do not have suitable habitat for this species. **This species is not present.**

Los Angeles pocket mouse

Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) is a CDFW Species of Special Concern. This species is typically found on open ground with fine, sandy soils and may not dig extensive burrows, hiding under weeds and dead leaves instead. Its habitat includes lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin. There is potential habitat for this species to be present on the project sites. **Potential to be present.**

Coast horned lizard

Coast horned lizard (*Phrynosoma blainvillii)* is a CDFW Species of Special Concern. This species is found in coastal sage scrub, coastal bluff scrub, chaparral, cismontane woodland, desert wash, pinon and juniper woodlands, riparian scrub, riparian woodland, and valley and foothill grassland. This species thrives in open areas for sunning, bushes for cover, patches of loos soil for burial, and an abundant supply of ants and other insects. There is potential habitat for this species to be present on the project sites. **Potential to be present.**

Coastal California gnatcatcher

Coastal California gnatcatcher (*Polioptila californica californica*) is a federally listed threatened species and CDFW Species of Special Concern. This species is found in coastal bluff scrub and coastal scrub habitat. This species is typically found in low, coastal sage scrub in arid washes, on mesas and slopes. The project sites do not have suitable habitat for this species. **This species is not present.**

Southern mountain yellow-legged frog

Southern mountain yellow-legged frog (*Rana muscosa*) is a federally and state listed endangered species. It is found in aquatic habitat. This species is always encountered within a few feet of water. Tadpoles may require two to four years to complete their aquatic development. The project sites do not contain suitable habitat for this species. **This species is not present.**

Riverside fairy shrimp

Riverside fairy shrimp (*Streptocephalus woottoni*) is a federally listed endangered species. This species is found in coastal scrub, valley and foothill grassland, vernal pool, and wetland habitat. This species typically inhabits seasonally astatic pools filled by winter/spring rains. It is endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales, or earth slump basins in grassland and coastal sage scrub habitat. The project sites do not contain suitable habitat for this species. **This species is not present.**

Least Bell's vireo

Least Bell's vireo (*Vireo bellii pusillus)* is a federal and state listed endangered species. This species is found in riparian forest, riparian scrub, and riparian woodland. Nesting habitat of this species is restricted to willow and/or mulefat dominated riparian scrub along permanent or nearly permanent streams. The project sites do not contain suitable habitat for this species. **This species is not present.**

3.6.3 Nesting Birds

Migratory non-game native bird species are protected under the federal Migratory Bird Treaty Act. Additionally, Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests. The project sites contain shrubs and trees that can support nesting song birds or raptors during the nesting bird season of February 1 through September 15.

3.7 Jurisdictional Waters

The project area does not contain any drainage features or associated riparian habitat that would be regulated under Section 1602 of the Fish and Game Code. Further, the project area does not contain any "waters of the United States" (WUS) that would be under the jurisdiction of the Federal CWA or riparian/wetland habitat that would be considered Western Riverside MSHCP riparian/riverine resources. No vernal pools are located within the project area.

4.0 Project Impacts

4.1 Impacts to Habitats

Construction of the proposed S2A Modular Manufacturing Plant will impact the entire 26.22-acre project area consisting of ruderal habitat.

4.2 Impacts to Sensitive Species

The species discussed below have the potential to occur on site. Project activities were evaluated to determine the potential for impacts to these species.

Coastal whiptail
The coastal whiptail (*Aspidoscelis tigris stejnegeri)* is a CDFW Species of Special Concern. There is potential habitat for this species to be present on the project sites, therefore the project has the potential to result in impacts to this species. However, this species is covered by the Western Riverside MSHCP and is considered adequately conserved.

California horned lark
California horned lark (*Eremophila alpestris actia*) is listed on the CDFW Watch List. There is potential habitat for this species to be present on the project sites, therefore the project has the potential to result in impacts to this species. However, this species is covered by the Western Riverside MSHCP and is considered adequately conserved.

Los Angeles pocket mouse
Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) is a CDFW Species of Special Concern. There is potential habitat for this species to be present on the project sites, therefore the project has the potential to result in impacts to this species. However, this species is covered by the Western Riverside MSHCP and is considered adequately conserved.

Coast horned lizard
Coast horned lizard (*Phrynosoma blainvillii)* is a CDFW Species of Special Concern. There is potential habitat for this species to be present on the project sites, therefore the project has the potential to result in impacts to this species. However, this species is covered by the Western Riverside MSHCP and is considered adequately conserved.

4.3 Impacts to Nesting Birds

If the project will remove shrubs or trees between February 1 and September 15, the project will have a potential to impact nesting birds.

4.4 Impacts to Critical Habitat

The project is not located within designated federal critical habitat. No impact to critical habitat would occur.

4.5 Impacts to Wildlife Movement Corridors

The project sites do not contain mountain canyons or riparian corridors between major wildlife habitats. The project area is surrounded by commercial and residential structures. No wildlife movement corridors were found to be present on the project sites.

4.6 Conflict with Local Policies or Ordinances Protecting Biological Resources

Should the proposed project result in the removal of trees, it will be required to comply with County of Riverside Ordinance No. 559.

4.7 Conflict with the Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Other Approved Local, Regional, or State Habitat Conservation Plan

No impacts to adopted habitat conservation plans, natural community conservation plans, or other approved local, regional or state habitat conservation plans are expected.

4.8 State and Federal Drainages

The project sites do not contain any state or federal jurisdictional drainages, streams, or lakes.

5.0 Western Riverside County MSHCP Consistency Analysis

5.1 MSHCP Requirements

The project area is located within the Western Riverside County MSHCP San Jacinto Valley Area Plan. However, the project area is not located within a Sub Area Plan, Criteria Cell, or Cell Group. A discussion of the applicable Western Riverside County MSHCP requirements follows:

Section 6.1.2 Species Associated with Riparian/Riverine Habitat and Vernal Pools

The proposed project sites do not contain any drainage features or associated riparian/wetland habitat that would be considered Western Riverside MSHCP riparian/riverine resources. Further, the sites do not contain any depressions or areas where water could pool. No vernal pools or suitable habitat for fairy shrimp occur on the sites.

Section 6.1.4 Urban/Wildlands Interface Guidelines

The project area is not located within or adjacent to a Western Riverside County MSHCP Conservation Area; therefore, the project is not required to address Section 6.1.4 of the Western Riverside County MSHCP.

Section 6.3.2 Additional Surveys and Procedures

The project area is not located within plan-defined areas requiring surveys for narrow endemic plant species, or criteria area plant species. However, the project area is located within plan defined-areas requiring surveys for burrowing owl (*Athene cunicularia*). A habitat assessment conducted for burrowing owl determined that the project area provides suitable habitat for the species. Therefore, focused burrowing owl surveys were conducted for the project area.

Focused burrowing owl surveys found that although the project site supports fossorial mammal burrows and non-natural substrates capable of supporting BUOW, no BUOW or BUOW sign was observed at the entrance or adjacent to the burrows located within the study area. Despite systematic searches of the project site and 150-meter buffer area, no BUOW or evidence (i.e., including scat, pellets, feathers, tracks, and prey remains) were found which suggest recent or historical use of the study area by BUOW. Therefore, it can be concluded that BUOW are not currently present within the project area and will not be impacted as a result of this project.

6.0 Recommendations

Based upon the findings of this report, it is recommended that the following studies or surveys be performed as part of the project, as required by the Western Riverside County MSHCP:

<u>Sensitive Species</u>

- Coastal whiptail, California horned lark, Los Angeles pocket mouse, and coast horned lizard have the potential to occur on the project sites and are adequately covered under the MSHCP. The proposed project must be consistent with the Western Riverside MSHCP. Payment of the appropriate development mitigation fees will mitigate any impacts to these species. A fee schedule can be found in the Local Development Mitigation Fee Schedule for Fiscal Year.

- Three days prior to any ground disturbing activities or vegetation removal, a qualified biological monitor should conduct a preconstruction survey to identify any sensitive biological resources to flag for avoidance. Any reptile species that may be present within the project area shall be relocated outside of the impact areas.

Burrowing Owl

- A habitat assessment has determined that the area provides suitable habitat for burrowing owl. Although the project site supports fossorial mammal burrows, rock outcrops, and non-natural substrates capable of supporting BUOW, no BUOW or BUOW sign was observed at the entrance or adjacent to these burrows within the study area. Despite systematic searches of the project site and 150-meter buffer area, no BUOW or evidence (i.e., including scat, pellets, feathers, tracks, and prey remains) were found which suggest recent or historical use of the study area by BUOW. Therefore, it can be concluded that BUOW are not currently present within the study area and will not be impacted as a result of this project.

- However, because the project area is located within the Western Riverside County MSHCP burrowing owl survey area, it is recommended that a preconstruction survey be performed prior to the commencement of project activities.

Nesting Birds

- It is recommended that vegetation removal be conducted during the non-nesting season for migratory birds to avoid direct impacts. The nesting season is between February 1 and September 15.

- If vegetation removal will occur during the migratory bird nesting season, between February 1 and September 15, it is recommended that pre-construction nesting bird surveys be performed within three days prior to vegetation removal.

- If active nests are found during nesting bird surveys, they shall be flagged, and a 200-foot buffer shall be fenced around the nests.

- A biological monitor shall visit the site once a week during ground disturbing activities to ensure all fencing is in place and no sensitive species are being impacted.

7.0 Certification

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date 06/06/19 Signed ______________________

PROJECT MANAGER

Fieldwork Performed By:

Juan Jose Hernandez
____

PRINCIPAL BIOLOGIST

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FIGURES

Figure 1

Location Map
APNs 439-030-009 and 439-030-010
Riverside County, California

Legend

Project Site Boundary

N

Hernandez Environmental Services

Figure 2

Vicinity Map
APNs 439-030-009 and 439-030-010
Riverside County, California

Legend

Project Site Boundary

N

Hernandez Environmental Services

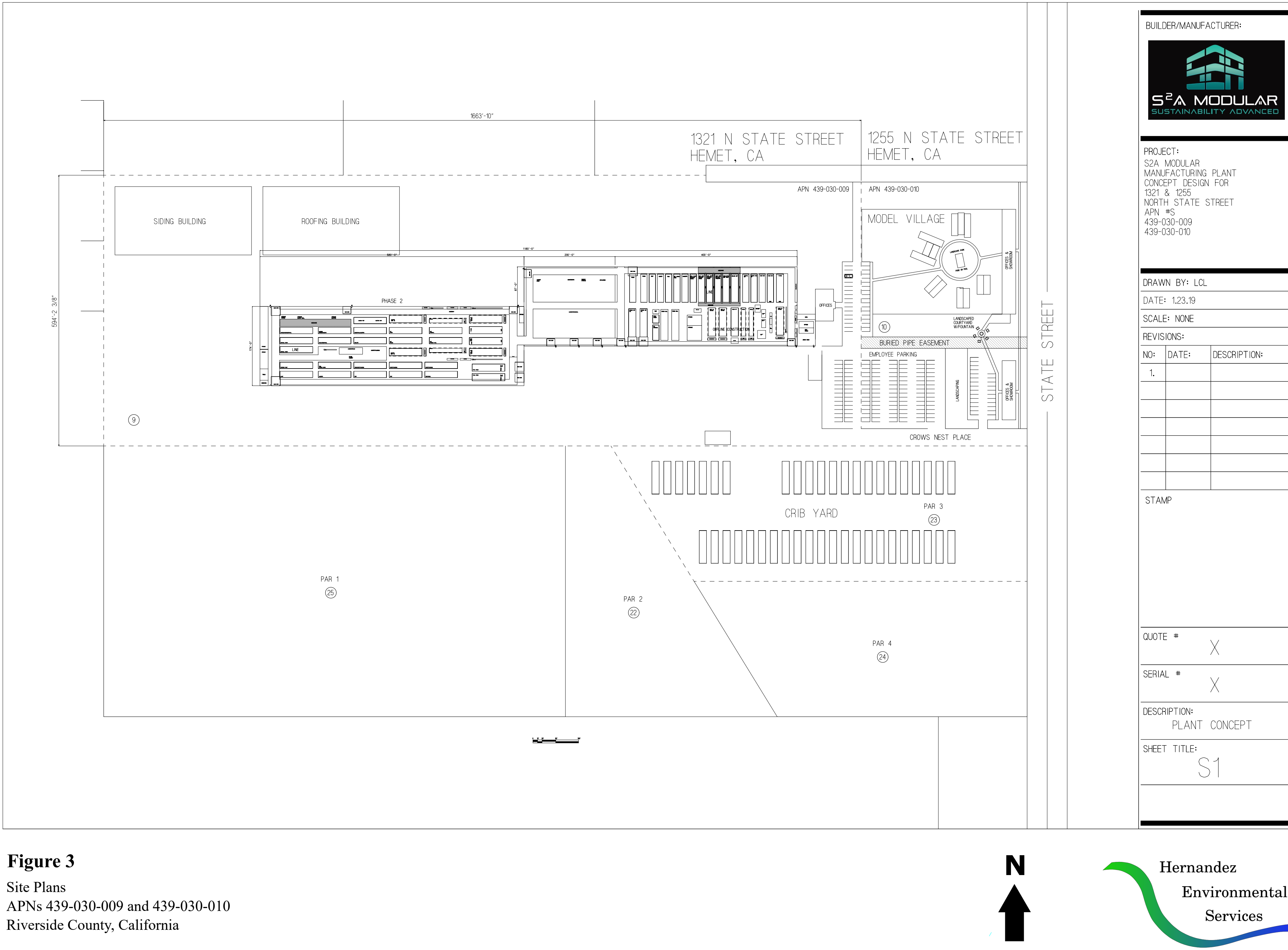

Figure 3

Site Plans
APNs 439-030-009 and 439-030-010
Riverside County, California

Hernandez Environmental Services

Figure 4

Habitat Map
APNs 439-030-009 and 439-030-010
Riverside County, California

Legend

Project Site Boundary

26.22 acres Ruderal/Disturbed Habitat

N

Hernandez Environmental Services

APPENDIX A

Appendix A Species List

Plant List

Ambrosia psilostachya	Western ragweed
Avena sp.	Oats
Brassica nigra	Black mustard
Brassica tournefortii	Common mustard
Bromis diandrus	Ripgut brome
Bromus sp.	Bromus
Bromis madritensis	Foxtail chess
Erodium sp	Filaree
Helianthus petiolaris	Sunflower
Heterptheca grandiflora	Telegraph weed
Hirschfeldia incana	Mustard
Hordeum sp	Barley
Lupinus succulentus	Arroyo lupine
Marrubium vulgare	Horehound
Nicotina glauca	Tree tabacco
Ricinus communis	Castor bean
Salsola tragus	Russian Thistle
Sisymbrium irio	London rocket

Animal List

Accipiter striatus	Cooper's hawk
Buteo jamaicensis	Red-tailed Hawk
Calypte anna	Anna's hummingbird
Canis latrans	Coyote
Carpodacus mexicanus	House finch
Corvus corax	Raven
Corvus brachyrhynchos	Crow
Melospiza melodia	Song sparrow
Mimus polyglottos	Mocking bird
Passer domesticus	House Sparrow
Pipilo crissalis	California towee
Procyon lotor	Northern racoon
Sayornis saya	Say's phoebe
Sceloporus occidentalis	Western fence lizard
Spermophilus beecheyi	California ground squirrel
Streptopelia decaocto	Euroasian collard dove
Sturnella neglecta	Western meadowlark
Sturnus vulgaris	European starling
Sylvilagus audubonii	Desert cottontail
Thomomys bottae	Botha's pocket gopher
Tyrannus verticalis	Western kingbird
Zenaida macroura	Mourning dove

APPENDIX B

Scientific Name	Common Name	Federal Listing	State Listing	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Accipiter cooperii	Cooper's hawk	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Cismontane woodland | Riparian forest | Riparian woodland | Upper montane coniferous forest	Woodland, chiefly of open, interrupted or marginal type.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	No habitat for this species. **Not present.**
Agelaius tricolor	tricolored blackbird	None	Candidate Endangered	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Freshwater marsh | Marsh & swamp | Swamp | Wetland	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California.	Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	No habitat for this species. **Not present.**
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	None	None	CDFW_WL-Watch List	Chaparral | Coastal scrub	Resident in Southern California coastal sage scrub and sparse mixed chaparral.	Frequents relatively steep, often rocky hillsides with grass and forb patches.	No habitat for this species. **Not present.**
Anaxyrus californicus	arroyo toad	Endangered	None	CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered	Desert wash | Riparian scrub | Riparian woodland | South coast flowing waters | South coast standing waters	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc.	Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	No habitat for this species. **Not present.**
Anniella stebbinsi	southern California legless lizard	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Broadleaved upland forest | Chaparral | Coastal dunes | Coastal scrub	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County.	Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Antrozous pallidus	pallid bat	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Chaparral | Coastal scrub | Desert wash | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Riparian woodland | Sonoran desert scrub | Upper montane coniferous forest | Valley & foothill grassland	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	No habitat for this species. **Not present.**
Aquila chrysaetos	golden eagle	None	None	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | CDFW_WL-Watch List | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest | Cismontane woodland | Coastal prairie | Great Basin grassland | Great Basin scrub | Lower montane coniferous forest | Pinon & juniper woodlands | Upper montane coniferous forest | Valley & foothill grassland	Rolling foothills, mountain areas, sage-juniper flats, and desert.	Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	No habitat for this species. **Not present.**
Arizona elegans occidentalis	California glossy snake	None	None	CDFW_SSC-Species of Special Concern		Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California.	Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	No habitat for this species. **Not present.**
Artemisiospiza belli belli	Bell's sage sparrow	None	None	CDFW_WL-Watch List | USFWS_BCC-Birds of Conservation Concern	Chaparral | Coastal scrub	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range.	Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.	No habitat for this species. **Not present.**
Aspidoscelis hyperythra	orange-throated whiptail	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern | USFS_S-Sensitive	Chaparral | Cismontane woodland | Coastal scrub	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats.	Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Aspidoscelis tigris stejnegeri	coastal whiptail	None	None	CDFW_SSC-Species of Special Concern		Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland & riparian areas.	Ground may be firm soil, sandy, or rocky.	Habitat is present for this species. **Potential to be present.**
Athene cunicularia	burrowing owl	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Coastal prairie | Coastal scrub | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub | Valley & foothill grassland	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation.	Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Habitat is present for this species. **Potential to be present.**
Bombus crotchii	Crotch bumble bee	None	None			Coastal California east to the Sierra-Cascade crest and south into Mexico.	Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	No habitat for this species. **Not present.**
Branchinecta lynchi	vernal pool fairy shrimp	Threatened	None	IUCN_VU-Vulnerable	Valley & foothill grassland | Vernal pool | Wetland	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools.	Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	No habitat for this species. **Not present.**
Buteo regalis	ferruginous hawk	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Great Basin grassland | Great Basin scrub | Pinon & juniper woodlands | Valley & foothill grassland	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats.	Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	No habitat for this species. **Not present.**
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Coastal scrub	Southern California coastal sage scrub.	Wrens require tall opuntia cactus for nesting and roosting.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Chaetodipus californicus femoralis	Dulzura pocket mouse	None	None	CDFW_SSC-Species of Special Concern	Chaparral | Coastal scrub | Valley & foothill grassland	Variety of habitats including coastal scrub, chaparral & grassland in San Diego County.	Attracted to grass-chaparral edges.	No habitat for this species. **Not present.**
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None	None	CDFW_SSC-Species of Special Concern	Chaparral | Coastal scrub	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County.	Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	No habitat for this species. **Not present.**
Chaetodipus fallax pallidus	pallid San Diego pocket mouse	None	None	CDFW_SSC-Species of Special Concern	Desert wash | Pinon & juniper woodlands | Sonoran desert scrub	Desert border areas in eastern San Diego County in desert wash, desert scrub, desert succulent scrub, pinyon-juniper, etc.	Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	No habitat for this species. **Not present.**
Charina umbratica	southern rubber boa	None	Threatened	USFS_S-Sensitive	Meadow & seep | Riparian forest | Riparian woodland | Upper montane coniferous forest | Wetland	Known from the San Bernardino and San Jacinto mtns; found in a variety of montane forest habitats. Snakes resembling C. umbratica reported from Mt. Pinos and Tehachapi mtns group with C. bottae based on mtDNA. Further research needed.	Found in vicinity of streams or wet meadows; requires loose, moist soil for burrowing; seeks cover in rotting logs, rock outcrops, and under surface litter.	No habitat for this species. **Not present.**
Circus hudsonius	northern harrier	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Coastal scrub | Great Basin grassland | Marsh & swamp | Riparian scrub | Valley & foothill grassland | Wetland	Coastal salt & freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas.	Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	No habitat for this species. **Not present.**
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Threatened	Endangered	BLM_S-Sensitive | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Riparian forest	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	No habitat for this species. **Not present.**
Coleonyx variegatus abbotti	San Diego banded gecko	None	None	CDFW_SSC-Species of Special Concern	Chaparral | Coastal scrub	Coastal & cismontane Southern California.	Found in granite or rocky outcrops in coastal scrub and chaparral habitats.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Corynorhinus townsendii	Townsend's big-eared bat	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Broadleaved upland forest | Chaparral | Chenopod scrub | Great Basin grassland | Great Basin scrub | Joshua tree woodland | Lower montane coniferous forest | Meadow & seep | Mojavean desert scrub | Riparian forest | Riparian woodland | Sonoran desert scrub | Sonoran thorn woodland | Upper montane coniferous forest | Valley & foothill grassland	Throughout California in a wide variety of habitats. Most common in mesic sites.	Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	No habitat for this species. **Not present.**
Crotalus ruber	red-diamond rattlesnake	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Chaparral | Mojavean desert scrub | Sonoran desert scrub	Chaparral, woodland, grassland, & desert areas from coastal San Diego County to the eastern slopes of the mountains.	Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	No habitat for this species. **Not present.**
Cypseloides niger	black swift	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | NABCI_YWL-Yellow Watch List | USFWS_BCC-Birds of Conservation Concern		Coastal belt of Santa Cruz and Monterey counties; central & southern Sierra Nevada; San Bernardino & San Jacinto mountains.	Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	No habitat for this species. **Not present.**
Dipodomys merriami parvus	San Bernardino kangaroo rat	Endangered	None	CDFW_SSC-Species of Special Concern	Coastal scrub	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains.	Needs early to intermediate seral stages.	No habitat for this species. **Not present.**
Dipodomys stephensi	Stephens' kangaroo rat	Endangered	Threatened	IUCN_EN-Endangered	Coastal scrub | Valley & foothill grassland	Primarily annual & perennial grasslands, but also occurs in coastal scrub & sagebrush with sparse canopy cover.	Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Elanus leucurus	white-tailed kite	None	None	BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern	Cismontane woodland | Marsh & swamp | Riparian woodland | Valley & foothill grassland | Wetland	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland.	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	No habitat for this species. **Not present.**
Empidonax traillii extimus	southwestern willow flycatcher	Endangered	Endangered	NABCI_RWL-Red Watch List	Riparian woodland	Riparian woodlands in Southern California.		No habitat for this species. **Not present.**
Eremophila alpestris actia	California horned lark	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Marine intertidal & splash zone communities | Meadow & seep	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills.	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Habitat is present for this species. **Potential to be present.**
Euphydryas editha quino	quino checkerspot butterfly	Endangered	None	XERCES_CI-Critically Imperiled	Chaparral | Coastal scrub	Sunny openings within chaparral & coastal sage shrublands in parts of Riverside & San Diego counties.	Hills and mesas near the coast. Need high densities of food plants Plantago erecta, P. insularis, and Orthocarpus purpurescens.	No habitat for this species. **Not present.**
Icteria virens	yellow-breasted chat	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Riparian forest | Riparian scrub | Riparian woodland	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses.	Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	No habitat for this species. **Not present.**
Lampropeltis zonata (parvirubra)	California mountain kingsnake (San Bernardino population)	None	None	BLM_S-Sensitive | CDFW_WL-Watch List | IUCN_LC-Least Concern | USFS_S-Sensitive	Chaparral | Lower montane coniferous forest | Talus slope	Bigcone spruce & chaparral at lower elevations. Black oak, incense cedar, Jeffrey pine & ponderosa pine at higher elevations.	Well-lit canyons with rocky outcrops or rocky talus.	No habitat for this species. **Not present.**
Lanius ludovicianus	loggerhead shrike	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest | Desert wash | Joshua tree woodland | Mojavean desert scrub | Pinon & juniper woodlands | Riparian woodland | Sonoran desert scrub	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub & washes.	Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Lasiurus xanthinus	western yellow bat	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | WBWG_H-High Priority	Desert wash	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats.	Roosts in trees, particularly palms. Forages over water and among trees.	No habitat for this species. **Not present.**
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None	None	CDFW_SSC-Species of Special Concern	Coastal scrub	Intermediate canopy stages of shrub habitats & open shrub / herbaceous & tree / herbaceous edges.	Coastal sage scrub habitats in Southern California.	No habitat for this species. **Not present.**
Neotoma lepida intermedia	San Diego desert woodrat	None	None	CDFW_SSC-Species of Special Concern	Coastal scrub	Coastal scrub of Southern California from San Diego County to San Luis Obispo County.	Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	No habitat for this species. **Not present.**
Onychomys torridus ramona	southern grasshopper mouse	None	None	CDFW_SSC-Species of Special Concern	Chenopod scrub	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	No habitat for this species. **Not present.**
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None	None	CDFW_SSC-Species of Special Concern	Coastal scrub	Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin.	Open ground with fine, sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	Habitat is present for this species**. Potential to be present.**
Phrynosoma blainvillii	coast horned lizard	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Chaparral | Cismontane woodland | Coastal bluff scrub | Coastal scrub | Desert wash | Pinon & juniper woodlands | Riparian scrub | Riparian woodland | Valley & foothill grassland	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Habitat is present for this species**. Potential to be present.**
Plegadis chihi	white-faced ibis	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Marsh & swamp | Wetland	Shallow freshwater marsh.	Dense tule thickets for nesting, interspersed with areas of shallow water for foraging.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Polioptila californica californica	coastal California gnatcatcher	Threatened	None	CDFW_SSC-Species of Special Concern | NABCI_YWL-Yellow Watch List	Coastal bluff scrub | Coastal scrub	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California.	Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	No habitat for this species. **Not present.**
Progne subis	purple martin	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Broadleaved upland forest | Lower montane coniferous forest	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine.	Nests in old woodpecker cavities mostly; also in human-made structures. Nest often located in tall, isolated tree/snag.	No habitat for this species. **Not present.**
Rana muscosa	southern mountain yellow-legged frog	Endangered	Endangered	CDFW_WL-Watch List | IUCN_EN-Endangered | USFS_S-Sensitive	Aquatic	Federal listing refers to populations in the San Gabriel, San Jacinto and San Bernardino mountains (southern DPS). Northern DPS was determined to warrant listing as endangered, Apr 2014, effective Jun 30, 2014.	Always encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development.	No habitat for this species. **Not present.**
Setophaga petechia	yellow warbler	None	None	CDFW_SSC-Species of Special Concern | USFWS_BCC-Birds of Conservation Concern	Riparian forest | Riparian scrub | Riparian woodland	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada.	Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	No habitat for this species. **Not present.**
Socalchemmis icenoglei	Icenogle's socalchemmis spider	None	None		Coastal scrub	Known only from the type locality in the vicinity of Winchester, Riverside County.		No habitat for this species. **Not present.**
Spea hammondii	western spadefoot	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	Cismontane woodland | Coastal scrub | Valley & foothill grassland | Vernal pool | Wetland	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands.	Vernal pools are essential for breeding and egg-laying.	No habitat for this species. **Not present.**
Stenopelmatus cahuilaensis	Coachella Valley jerusalem cricket	None	None	IUCN_VU-Vulnerable	Desert dunes	Inhabits a small segment of the sand and dune areas of the Coachella Valley, in the vicinity of Palm Springs.	Found in the large, undulating dunes piled up at the north base of Mt San Jacinto.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Streptocephalus woottoni	Riverside fairy shrimp	Endangered	None	IUCN_EN-Endangered	Coastal scrub | Valley & foothill grassland | Vernal pool | Wetland	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub.	Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	No habitat for this species. **Not present.**
Taxidea taxus	American badger	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Alkali marsh | Alkali playa | Alpine | Alpine dwarf scrub | Bog & fen | Brackish marsh | Broadleaved upland forest | Chaparral | Chenopod scrub | Cismontane woodland | Closed-cone coniferous forest | Coastal bluff scrub | Coastal dunes | Coastal prairie | Coastal scrub | Desert dunes | Desert wash | Freshwater marsh | Great Basin grassland | Great Basin scrub | Interior dunes | Ione formation | Joshua tree woodland | Limestone | Lower montane coniferous forest | Marsh & swamp | Meadow & seep | Mojavean desert scrub | Montane dwarf scrub | North coast coniferous forest | Oldgrowth | Pavement plain | Redwood | Riparian forest	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	No habitat for this species. **Not present.**
Toxostoma lecontei	Le Conte's thrasher	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Desert wash | Mojavean desert scrub | Sonoran desert scrub	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats.	Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Vireo bellii pusillus	least Bell's vireo	Endangered	Endangered	IUCN_NT-Near Threatened | NABCI_YWL-Yellow Watch List	Riparian forest | Riparian scrub | Riparian woodland	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.	Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	No habitat for this species. **Not present.**
Xanthocephalus xanthocephalus	yellow-headed blackbird	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Marsh & swamp | Wetland	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds.	Nests only where large insects such as Odonata are abundant, nesting timed with maximum emergence of aquatic insects.	No habitat for this species. **Not present.**
Xerospermophilus tereticaudus chlorus	Palm Springs round-tailed ground squirrel	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern	Chenopod scrub | Sonoran desert scrub	Restricted to the Coachella Valley. Prefers desert succulent scrub, desert wash, desert scrub, alkali scrub, and levees.	Prefers open, flat, grassy areas in fine-textured, sandy soil. Density correlated with winter rainfall.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Rare Plant Rank	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Abronia villosa var. aurita	chaparral sand-verbena	None	None	1B.1	BLM_S-Sensitive | USFS_S-Sensitive	Chaparral | Coastal scrub | Desert dunes	Chaparral, coastal scrub, desert dunes.	Sandy areas. -60-1570 m.	No habitat for this species. **Not present.**
Allium marvinii	Yucaipa onion	None	None	1B.2	USFS_S-Sensitive	Chaparral	Chaparral.	In openings on clay soils. 850-1070 m.	No habitat for this species. **Not present.**
Allium munzii	Munz's onion	Endangered	Threatened	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral | Cismontane woodland | Coastal scrub | Pinon & juniper woodlands | Valley & foothill grassland	Chaparral, coastal scrub, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland.	Heavy clay soils; grows in grasslands & openings within shrublands or woodlands. 375-1040 m.	No habitat for this species. **Not present.**
Astragalus lentiginosus var. coachellae	Coachella Valley milk-vetch	Endangered	None	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden | SB_USDA-US Dept of Agriculture	Desert dunes | Sonoran desert scrub	Sonoran desert scrub, desert dunes.	Sandy flats, washes, outwash fans, sometimes on dunes. 35-695 m.	No habitat for this species. **Not present.**
Astragalus pachypus var. jaegeri	Jaeger's milk-vetch	None	None	1B.1	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Cismontane woodland | Coastal scrub | Valley & foothill grassland	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland.	Dry ridges and valleys and open sandy slopes; often in grassland and oak-chaparral. 365-1040 m.	No habitat for this species. **Not present.**
Atriplex coronata var. notatior	San Jacinto Valley crownscale	Endangered	None	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Alkali playa | Valley & foothill grassland | Vernal pool | Wetland	Playas, valley and foothill grassland, vernal pools.	Alkaline areas in the San Jacinto River Valley. 35-460 m.	No habitat for this species. **Not present.**
Atriplex parishii	Parish's brittlescale	None	None	1B.1	USFS_S-Sensitive	Alkali playa | Chenopod scrub | Meadow & seep | Vernal pool | Wetland	Vernal pools, chenopod scrub, playas.	Usually on drying alkali flats with fine soils. 4-1420 m.	No habitat for this species. **Not present.**
Atriplex serenana var. davidsonii	Davidson's saltscale	None	None	1B.2		Coastal bluff scrub | Coastal scrub	Coastal bluff scrub, coastal scrub.	Alkaline soil. 0-480 m.	No habitat for this species. **Not present.**
Brodiaea filifolia	thread-leaved brodiaea	Threatened	Endangered	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral | Cismontane woodland | Coastal scrub | Valley & foothill grassland | Vernal pool | Wetland	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools.	Usually associated with annual grassland and vernal pools; often surrounded by shrubland habitats. Occurs in openings on clay soils. 15-1030 m.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Rare Plant Rank	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Calochortus palmeri var. munzii	San Jacinto mariposa-lily	None	None	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Lower montane coniferous forest | Meadow & seep	Lower montane coniferous forest, chaparral, meadows and seeps.	Seen in open Jeffrey pine forest as well as in chaparral. 940-1815 m.	No habitat for this species. **Not present.**
Calochortus palmeri var. palmeri	Palmer's mariposa-lily	None	None	1B.2	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Lower montane coniferous forest | Meadow & seep	Meadows and seeps, chaparral, lower montane coniferous forest.	Vernally moist places in yellow-pine forest, chaparral. 195-2530 m.	No habitat for this species. **Not present.**
Calochortus plummerae	Plummer's mariposa-lily	None	None	4.2	SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral | Cismontane woodland | Coastal scrub | Lower montane coniferous forest | Valley & foothill grassland	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest.	Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m.	No habitat for this species. **Not present.**
Calochortus weedii var. intermedius	intermediate mariposa-lily	None	None	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Coastal scrub | Valley & foothill grassland	Coastal scrub, chaparral, valley and foothill grassland.	Dry, rocky calcareous slopes and rock outcrops. 60-1575 m.	No habitat for this species. **Not present.**
Caulanthus simulans	Payson's jewelflower	None	None	4.2	USFS_S-Sensitive	Chaparral | Coastal scrub	Chaparral, coastal scrub.	Frequently in burned areas, or in disturbed sites such as streambeds; also on rocky, steep slopes. Sandy, granitic soils. 90-2200 m.	No habitat for this species. **Not present.**
Centromadia pungens ssp. laevis	smooth tarplant	None	None	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Alkali playa | Chenopod scrub | Meadow & seep | Riparian woodland | Valley & foothill grassland | Wetland	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland.	Alkali meadow, alkali scrub; also in disturbed places. 5-1170 m.	No habitat for this species. **Not present.**
Chorizanthe parryi var. parryi	Parry's spineflower	None	None	1B.1	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Cismontane woodland | Coastal scrub | Valley & foothill grassland	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland.	Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1220 m.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Rare Plant Rank	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Chorizanthe polygonoides var. longispina	long-spined spineflower	None	None	1B.2	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral | Coastal scrub | Meadow & seep | Ultramafic | Valley & foothill grassland | Vernal pool	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools.	Gabbroic clay. 30-1630 m.	No habitat for this species. **Not present.**
Chorizanthe xanti var. leucotheca	white-bracted spineflower	None	None	1B.2	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | SB_USDA-US Dept of Agriculture | USFS_S-Sensitive	Coastal scrub | Mojavean desert scrub | Pinon & juniper woodlands	Mojavean desert scrub, pinyon and juniper woodland, coastal scrub (alluvial fans).	Sandy or gravelly places. 365-1830 m.	No habitat for this species. **Not present.**
Deinandra mohavensis	Mojave tarplant	None	Endangered	1B.3	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Coastal scrub | Riparian scrub	Riparian scrub, coastal scrub, chaparral.	Low sand bars in river bed; mostly in riparian areas or in ephemeral grassy areas. 640-1600 m.	No habitat for this species. **Not present.**
Dodecahema leptoceras	slender-horned spineflower	Endangered	Endangered	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral | Cismontane woodland | Coastal scrub	Chaparral, cismontane woodland, coastal scrub (alluvial fan sage scrub).	Flood deposited terraces and washes; associates include Encelia, Dalea, Lepidospartum, etc. Sandy soils. 200-765 m.	No habitat for this species. **Not present.**
Galium angustifolium ssp. jacinticum	San Jacinto Mountains bedstraw	None	None	1B.3	USFS_S-Sensitive	Lower montane coniferous forest	Lower montane coniferous forest.	Open mixed forest. 1190-2440 m.	No habitat for this species. **Not present.**
Galium californicum ssp. primum	Alvin Meadow bedstraw	None	None	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Chaparral | Lower montane coniferous forest	Chaparral, lower montane coniferous forest.	Grows in shade of trees and shrubs at the lower edge of the pine belt, in pine forest-chaparral ecotone. Granitic, sandy soils. 1460-1830 m.	No habitat for this species. **Not present.**
Horkelia cuneata var. puberula	mesa horkelia	None	None	1B.1	USFS_S-Sensitive	Chaparral | Cismontane woodland | Coastal scrub	Chaparral, cismontane woodland, coastal scrub.	Sandy or gravelly sites. 15-1645 m.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Rare Plant Rank	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Imperata brevifolia	California satintail	None	None	2B.1	SB_SBBG-Santa Barbara Botanic Garden | USFS_S-Sensitive	Chaparral | Coastal scrub | Meadow & seep | Mojavean desert scrub | Riparian scrub | Wetland	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub.	Mesic sites, alkali seeps, riparian areas. 3-1495 m.	No habitat for this species. **Not present.**
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	None	None	1B.1	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden	Alkali playa | Marsh & swamp | Salt marsh | Vernal pool | Wetland	Coastal salt marshes, playas, vernal pools.	Usually found on alkaline soils in playas, sinks, and grasslands. 1-1375 m.	No habitat for this species. **Not present.**
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	None	None	4.3		Chaparral | Coastal scrub	Chaparral, coastal scrub.	Dry soils, shrubland. 4-1435 m.	No habitat for this species. **Not present.**
Lilium parryi	lemon lily	None	None	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Lower montane coniferous forest | Meadow & seep | Riparian forest | Upper montane coniferous forest | Wetland	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest.	Wet, mountainous terrain; generally in forested areas; on shady edges of streams, in open boggy meadows & seeps. 625-2930 m.	No habitat for this species. **Not present.**
Mentzelia tricuspis	spiny-hair blazing star	None	None	2B.1		Mojavean desert scrub	Mojavean desert scrub.	Sandy or gravelly slopes and washes.150-1280 m.	No habitat for this species. **Not present.**
Monardella nana ssp. leptosiphon	San Felipe monardella	None	None	1B.2	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | USFS_S-Sensitive	Chaparral | Lower montane coniferous forest	Chaparral, lower montane coniferous forest.	Sometimes in openings and fuelbreaks or in the understory of forest or chaparral. 850-2425 m.	No habitat for this species. **Not present.**
Myosurus minimus ssp. apus	little mousetail	None	None	3.1		Valley & foothill grassland | Vernal pool | Wetland	Vernal pools, valley and foothill grassland.	Alkaline soils. 20-640 m.	No habitat for this species. **Not present.**
Nama stenocarpa	mud nama	None	None	2B.2		Marsh & swamp | Wetland	Marshes and swamps.	Lake shores, river banks, intermittently wet areas. 5-500 m.	No habitat for this species. **Not present.**
Navarretia fossalis	spreading navarretia	Threatened	None	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Alkali playa | Chenopod scrub | Marsh & swamp | Vernal pool | Wetland	Vernal pools, chenopod scrub, marshes and swamps, playas.	San Diego hardpan and San Diego claypan vernal pools; in swales & vernal pools, often surrouded by other habitat types. 15-850 m.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Rare Plant Rank	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Orcuttia californica	California Orcutt grass	Endangered	Endangered	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Vernal pool | Wetland	Vernal pools.	10-660 m.	No habitat for this species. **Not present.**
Penstemon californicus	California beardtongue	None	None	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden | SB_USDA-US Dept of Agriculture | USFS_S-Sensitive	Chaparral | Lower montane coniferous forest | Pinon & juniper woodlands	Chaparral, lower montane coniferous forest, pinyon and juniper woodland.	Stony slopes and shrubby openings; sandy or granitic soils. 1170-2300 m.	No habitat for this species. **Not present.**
Petalonyx linearis	narrow-leaf sandpaper-plant	None	None	2B.3		Mojavean desert scrub | Sonoran desert scrub	Mojavean desert scrub, Sonoran desert scrub.	Sandy or rocky canyons. -30-1090 m.	No habitat for this species. **Not present.**
Pseudognaphalium leucocephalum	white rabbit-tobacco	None	None	2B.2		Chaparral | Cismontane woodland | Coastal scrub | Riparian woodland	Riparian woodland, cismontane woodland, coastal scrub, chaparral.	Sandy, gravelly sites. 35-515 m.	No habitat for this species. **Not present.**
Saltugilia latimeri	Latimer's woodland-gilia	None	None	1B.2	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | SB_USDA-US Dept of Agriculture | USFS_S-Sensitive	Chaparral | Limestone | Mojavean desert scrub | Pinon & juniper woodlands	Chaparral, Mojavean desert scrub, pinyon and juniper woodland.	Rocky or sandy substrate; sometimes in washes, sometimes limestone. 120-2200 m.	No habitat for this species. **Not present.**
Scutellaria bolanderi ssp. austromontana	southern mountains skullcap	None	None	1B.2	USFS_S-Sensitive	Chaparral | Cismontane woodland | Lower montane coniferous forest	Chaparral, cismontane woodland, lower montane coniferous forest.	In gravelly soils on streambanks or in mesic sites in oak or pine woodland. 425-2000 m.	No habitat for this species. **Not present.**
Sidalcea neomexicana	salt spring checkerbloom	None	None	2B.2	USFS_S-Sensitive	Alkali playa | Chaparral | Coastal scrub | Lower montane coniferous forest | Mojavean desert scrub | Wetland	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub.	Alkali springs and marshes. 3-2380 m.	No habitat for this species. **Not present.**
Streptanthus bernardinus	Laguna Mountains jewelflower	None	None	4.3	SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral | Lower montane coniferous forest | Upper montane coniferous forest	Chaparral, lower montane coniferous forest.	Clay or decomposed granite soils; sometimes in disturbed areas such as streamsides or roadcuts. 1440-2500 m.	No habitat for this species. **Not present.**

Scientific Name	Common Name	Federal Listing	State Listing	Rare Plant Rank	Other Status	Habitat	General Habitat	Micro Habitat	Presence/Absence
Symphyotrichum defoliatum	San Bernardino aster	None	None	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Cismontane woodland | Coastal scrub | Lower montane coniferous forest | Marsh & swamp | Meadow & seep | Valley & foothill grassland	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland.	Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m.	No habitat for this species. **Not present.**
Tortula californica	California screw moss	None	None	1B.2	BLM_S-Sensitive	Chenopod scrub | Valley & foothill grassland	Chenopod scrub, valley and foothill grassland.	Moss growing on sandy soil. 10-1460 m.	No habitat for this species. **Not present.**
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	None	None	2B.1		Marsh & swamp | Meadow & seep | Riparian forest | Vernal pool | Wetland	Marshes and swamps, riparian forest, meadows and seeps, vernal pools.	Mud flats of vernal lakes, drying river beds, alkali meadows. 5-435 m.	No habitat for this species. **Not present.**
Canyon Live Oak Ravine Forest	Canyon Live Oak Ravine Forest	None	None			Riparian forest			**Not present.**
Desert Fan Palm Oasis Woodland	Desert Fan Palm Oasis Woodland	None	None			Riparian woodland			**Not present.**
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	None	None			Riparian forest			**Not present.**
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	None	None			Riparian forest			**Not present.**
Southern Mixed Riparian Forest	Southern Mixed Riparian Forest	None	None			Riparian forest			**Not present.**
Southern Riparian Scrub	Southern Riparian Scrub	None	None			Riparian scrub			**Not present.**
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	None	None			Riparian woodland			**Not present.**

APPENDIX C

Disturbed/ruderal habitat on the project site.

Disturbed/ruderal habitat on the project site.

Disturbed/ruderal habitat on the project site.

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Disturbed/ruderal habitat with cement Drainage.

Disturbed/ruderal habitat on the project site with cement drainage.

Disturbed/ruderal habitat on the project site.

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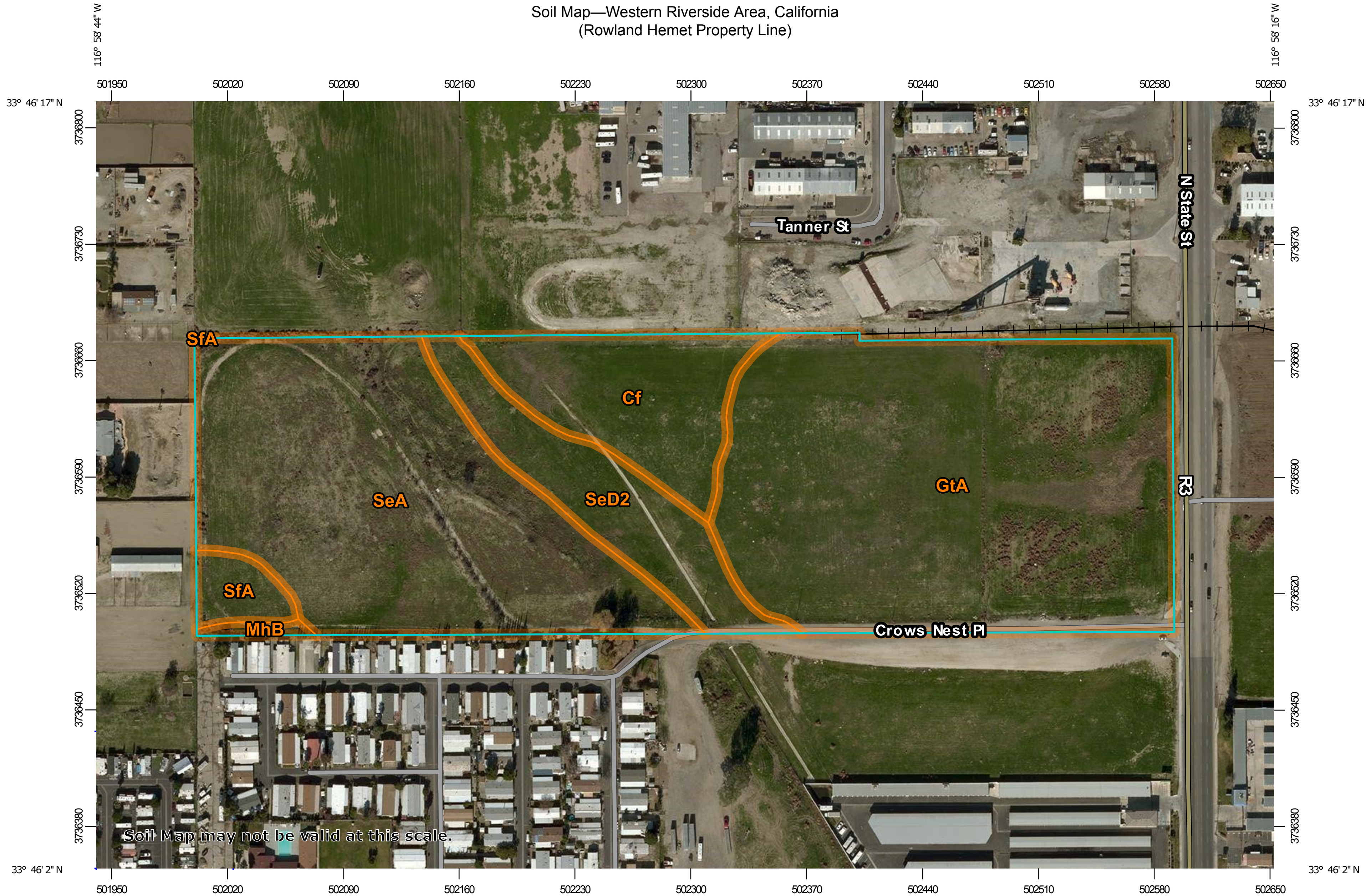
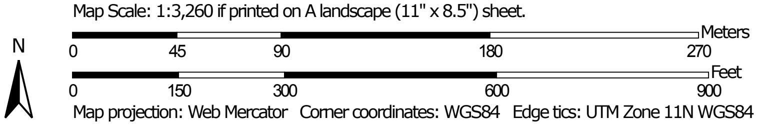
APPENDIX D

Soil Map—Western Riverside Area, California
(Rowland Hemet Property Line)



Map Scale: 1:3,260 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 11, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 5, 2015—Feb 4, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cf	Chino silt loam, drained, saline-alkali	2.7	10.3%
GtA	Grangeville fine sandy loam, drained, 0 to 2 percent sl opes	11.7	44.7%
MhB	Metz loamy fine sand, sandy loam substratum, 0 to 5 per cent slopes	0.1	0.5%
SeA	San Emigdio fine sandy loam, 0 to 2 percent slopes, occassional frost	8.7	33.2%
SeD2	San Emigdio fine sandy loam, 8 to 15 percent slopes, eroded	2.4	9.3%
SfA	San Emigdio fine sandy loam, deep, 0 to 2 percent slopes	0.5	2.1%
Totals for Area of Interest		**26.2**	**100.0%**

Hernandez Environmental Services

Memorandum

Date: June 7, 2019

To: Rowland Development

From: Juan J. Hernandez, Principal Biologist

Subject: Burrowing Owl Survey Report for Assessor Parcel Numbers 439-030-009 and 439-030-010 located in Riverside County, California

This memorandum provides the methods and results of a Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) burrowing owl (*Athene cunicularia*) (BUOW) survey for the proposed construction of the S2A Modular Manufacturing Plant including associated offices, parking and walkways. The project area consists of approximately 26.22 acres located in the city of Hemet, in Riverside County, California.

Project Location

The project area is located at the northwest corner of North State Street and Crows Nest Place at 1321 and 1255 North State Street in the city of Hemet, Riverside County, California. The project area consists of Riverside County APNs 439-030-009 and 439-030-010. Specifically, the project area is located within the San Jacinto Viejo Land Grant of the San Jacinto United States Geological Survey (USGS) 7.5’ topographic quadrangle. The center point latitude and longitude for the project area are 33°46’09.70” North and 116°58’28.04” West (Figures 1 and 2).

The study area included the entire approximately 26.22-acre project area and a 150-meter (500-foot) buffer around the site (Figure 3), where accessible.

Project Contact Information

Owner/Applicant: John Rowland
Rowland Development
23811 Washington Avenue, #110
Murrieta, CA 92662

Principal Investigator: Juan J. Hernandez
Hernandez Environmental Services
17037 Lakeshore Drive
Lake Elsinore, CA 92530
(909) 772-9009

Field Survey Methods

HES implemented the three steps as described in the Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area (Attachment A). The "General Biological Assessment Report" prepared for the project, determined that focused surveys for BUOW would be required due to recorded historic observations on the site and the presence of suitable habitat documented during the March 20, 2019 habitat assessment.

In accordance with the *MSHCP Burrowing Owl Survey Instructions*, focused burrow and focused BUOW surveys (Part A and Part B, respectively) were conducted on four separate days during the breeding season: March 20, March 28, April 17 and April 24, 2019 Survey times, weather, and applicable sunrise/sunset information is described in Table 1 below.

Table 1. Survey Information

Survey	Date	Survey Start Time	Sunrise/Sunset	Weather
1	March 20, 2019	0700 hours	0624 hours	51 degrees Fahrenheit, clear, calm winds 0 miles per hour.
2	March 28, 2019	0700 hours	0617 hours	56 degrees Fahrenheit, partly cloudy, calm winds 0 miles per hour
3	April 17, 2019	0700 hours	0614 hours	65 degrees Fahrenheit, partly cloudy, winds 0-3 miles per hour from the west
4	April 24, 2019	O700 hours	0611 hours	57 degrees Fahrenheit, partly cloudy, winds 0-3 miles per hour from the west.

Surveys were conducted from one hour before sunrise to two hours after sunrise or two hours before sunset to one hour after sunset and during weather that was conducive to observing owls outside their burrows and detecting BUOW sign. The surveys were not conducted during rain, high winds (> 20 miles per hour), dense fog, or temperatures above 90 degrees Fahrenheit. Surveys involved walking through potentially suitable habitat within the survey area. The pedestrian survey transects were spaced approximately 30 to 50 feet apart to allow 100 percent visual coverage of the ground surface. Special attention was paid to those habitat areas that appeared to provide suitable habitat for BUOW. Where permission to access the buffer areas could not be obtained, the biologist visually inspect adjacent habitats with binoculars.

All encountered burrows or structure entrances were checked for the presence of BUOW, molted feathers, cast pellets, prey remains, eggshell fragments, tracks, or excrement. Natural or man-made structures and debris piles that could support BUOW were also surveyed. The locations of all suitable BUOW habitat, potential burrows, BUOW sign, and any BUOW observed was recorded and mapped with a handheld Global Positioning System (GPS) unit.

All wildlife species encountered visually or audibly during the field survey were identified and recorded in field notes. Binoculars were used to aid in the identification of observed wildlife. Photographs were taken to document existing conditions within the survey area.

Results

The project area is undeveloped, relatively flat, and disturbed. Surrounding land uses include commercial developments and the San Jacinto Park to the north, undeveloped land to the east, commercial and residential developments to the south, and residential developments to the west. Elevations on the project area range from 1,536 feet above mean sea-level (AMSL) to 1,556 AMSL.

Six soil classes are identified to occur within the project area by the United States Department of Agriculture (USDA) including:

- Chino silt loam (Cf), drained, saline-alkali;
- Grangeville fine sandy loam (GtA), drained, 0 to 2 percent slopes;
- Metz loamy fine sand (MhB), sandy loam substratum, 0 to 5 percent slopes;
- San Emigdio fine sandy loam (SeA), 0 to 2 percent slopes, occasional frost;
- San Emigdio fine sandy loam (SeD2), 8 to 15 percent slopes, eroded; and
- San Emigdio fine sandy loam (SfA), deep, 0 to 2 percent slopes.

The project area contains approximately 26.22 acres of ruderal/disturbed habitat. The ruderal areas on the area are dominated by non-native plant species. Dominant vegetation observed in this habitat type includes ripgut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), black mustard (*Brassica nigra*), Russian thistle (*Salsola tragus*), London rocket (*Sisymbrium irio*), and filaree (*Erodium sp.*).

Based on the results of the focused burrow survey conducted on March 20, 2019, it was determined that the survey area provides suitable burrows/nesting opportunities for BUOW. A total of eight suitable burrows measuring four inches or greater in diameter were checked and recorded (Figure 4). The suitable burrows identified occurred in a cement pipe located in the central portion of the project area. No suitable burrows were identified within the 150-meter buffer area surrounding the project area.

Evidence of ground squirrels and ground squirrel activities were observed within the study area. Although the project area supports fossorial mammal burrows and non-natural substrates capable of supporting BUOW, the focused BUOW surveys found that no BUOW or BUOW sign occur within the study area.

Despite systematic searches of the study area, no BUOW or evidence (i.e., including scat, pellets, feathers, tracks, and prey remains) were found which suggest recent or historic use of the study area by BUOW. Therefore, it can be concluded that would BUOW are not currently present within the study area.

Recommendations

It is recommended that an MSHCP preconstruction survey be conducted within 30 days prior to the start of any ground disturbing activities to avoid potential impacts to BUOW or other nesting birds, and to ensure that no BUOW have moved onto the project site.

Certification

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: June 7, 2019

Juan J. Hernandez
Principal Biologist

Enclosures:

Figure 1: Location Map
Figure 2: Vicinity Map
Figure 3: Survey Area Map
Figure 4: Survey Results Map

Appendix A: Site Photographs

FIGURES

Figure 1

Location Map
APNs 439-030-009 and 439-030-010
Riverside County, California

Legend

Project Site Boundary

N

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Figure 2

Vicinity Map
APNs 439-030-009 and 439-030-010
Riverside County, California

Legend

Project Site Boundary

N

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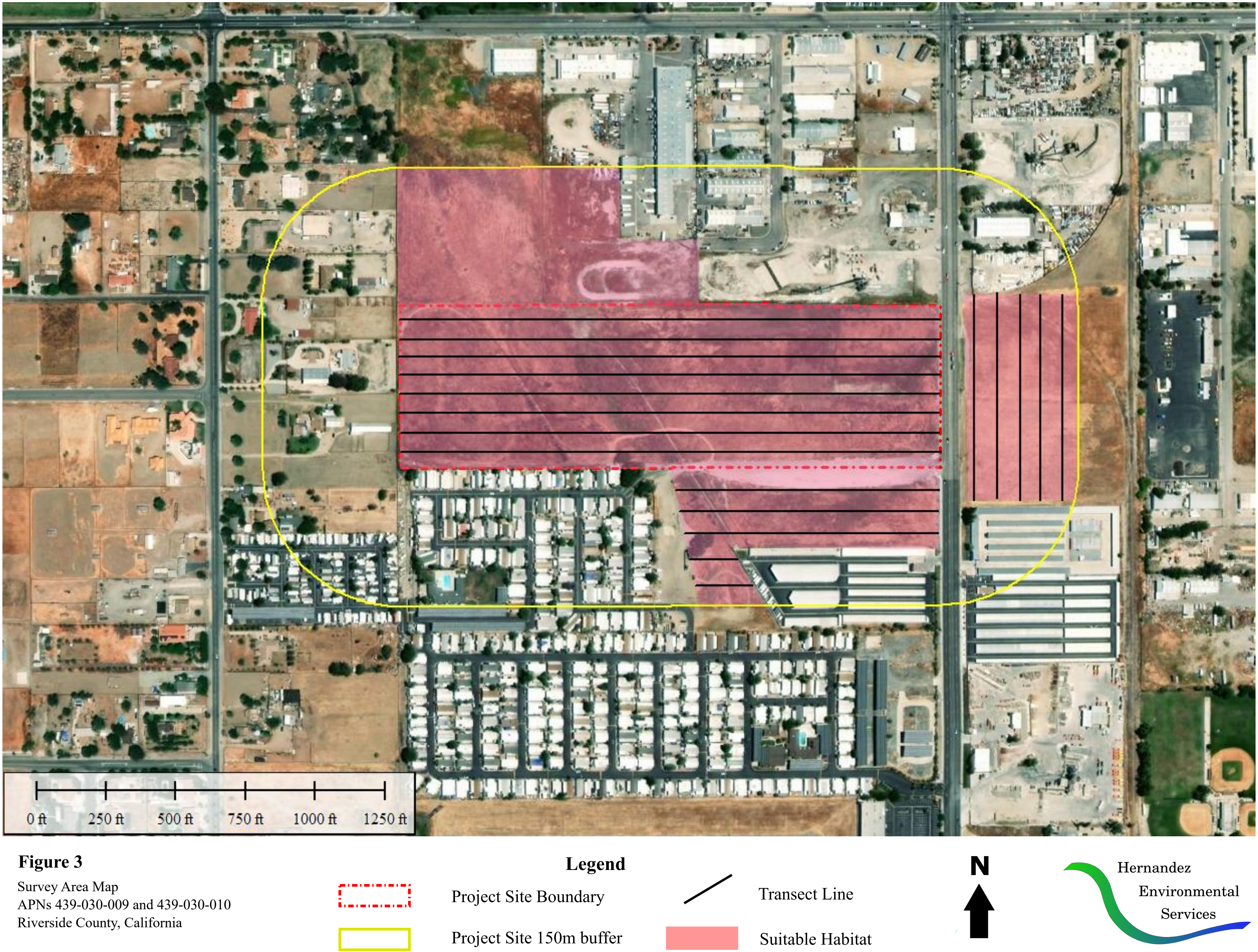

Figure 3

Survey Area Map
APNs 439-030-009 and 439-030-010
Riverside County, California

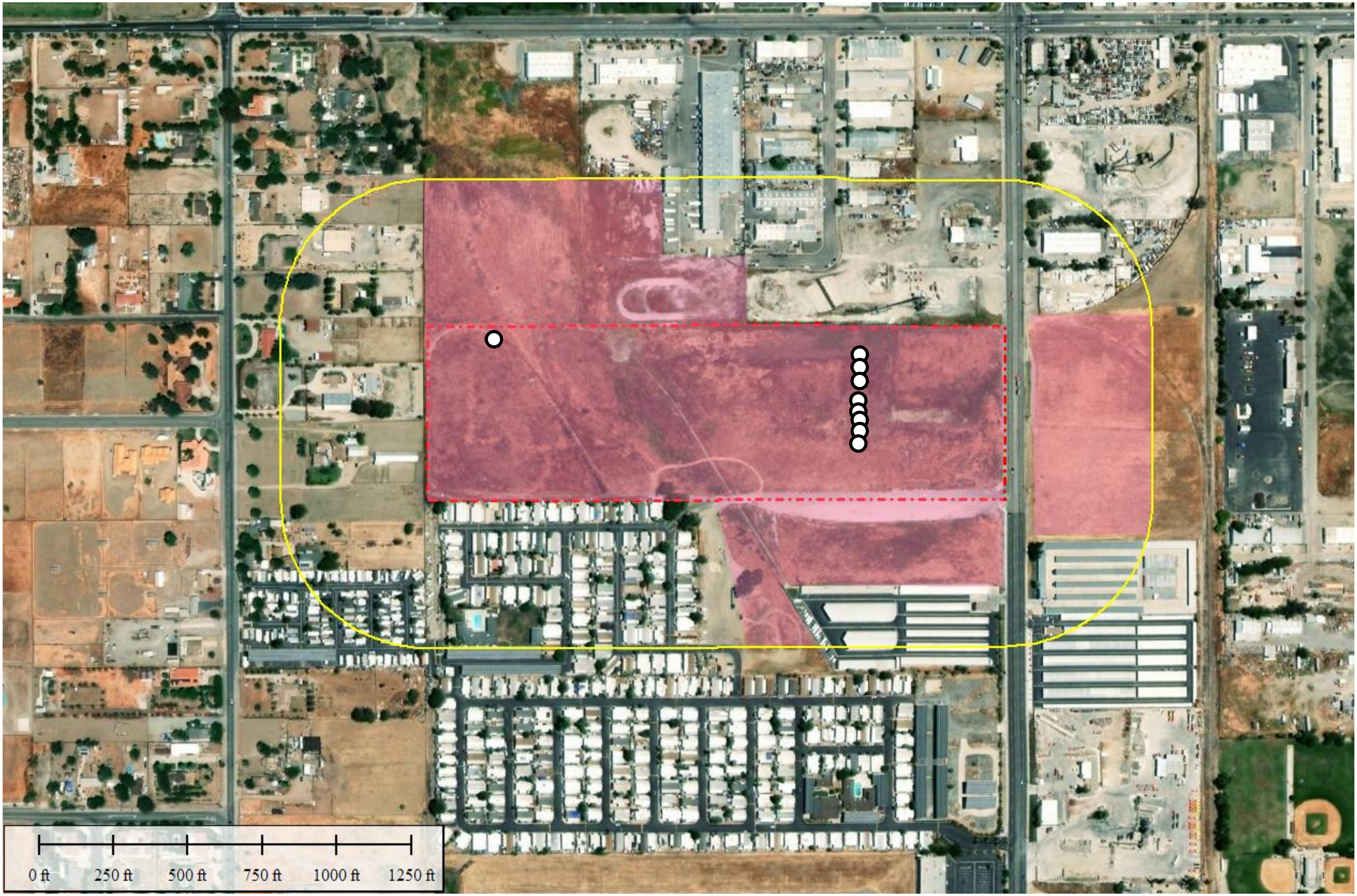

Figure 4

Survey Results Map
APNs 439-030-009 and 439-030-010
Riverside County, California

Legend

Project Site Boundary
Project Site 150m buffer
Burrow Location
Suitable Habitat

N

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APPENDIX A

Disturbed habitat on the project site, suitable for burrowing owls.

Potentially suitable burrow, no sign.

Drainage pipe located in the central portion of the property.

Hernandez Environmental Services

Phase I Cultural Resources Assessment
S2A Modular Factory Project
City of Hemet, Riverside County, California

Prepared for:

City of Hemet Planning Division
H.P. Kang, MBA
445 East Florida Avenue
Hemet, California 92543

Prepared by:

MIG, Inc.
1500 Iowa Avenue, Suite 110
Riverside, California 92507

Author:

Christopher W. Purtell, M.A., RPA
Senior Archaeologist

San Jacinto (1996) CA United States Geological Survey 7.5" Quadrangle Map,
Unsectioned Township 5 North, Range 1 West

Project Acreage: 32.10
Resources Identified: None

March 26, 2020

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Table of Contents

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1 – Executive Summary

The proposed application is for the new construction of a TESLA powered modular smart home factory. The factory will also include a showroom and model display area consisting of 7 buildings totaling approximately 250,000 square feet. The project is located at 1321 and 1255 North State Street on the west side of State Street in the City of Hemet. The Project Site encompasses three parcels totaling approximately 32 acres on vacant lot conditions with a fault line and a natural drainage area that flows north on to existing industrial businesses (APN: 439-030-009, 439-030-010, and 439-040-023. The proposal includes seven new (7) buildings including front retail stores (for associated vendors) and a model home display village (five full functioning models). This is a Net Zero facility with all solar use with a battery storage system and Tesla truck delivery system.

MIG conducted a Phase I Cultural Resources Assessment of the Study Area to determine the potential impacts to cultural resources (including archaeological, historical, and paleontological resources) for compliance with the California Environmental Quality Act (CEQA) and the local cultural resource regulations. This assessment's scope of work includes a cultural resources records search through the California Historical Resources Information System-Eastern Information Center (CHRIS-EIC), a Sacred Lands File (SLF) search through the California Native American Heritage Commission (NAHC), land-use history research, the City of Hemet Archaeological Resources Sensitivity Map, a paleontological resources records search through the Vertebrate Paleontological Department of the Natural History Museum of Los Angeles County (NHMLAC), pedestrian field survey, eligibility evaluations for resources identified within the Study Area, impact analyses, and the recommendation of additional work and mitigation measures.

1.1 – Archaeological Resources

The cultural resources records search results from the Eastern Information Center (CHRIS-EIC) indicate that there are no archaeological resources located within the project's Area of Potential Effects (APE). The City of Hemet Archaeological Resources Sensitivity Map was also reviewed and found the Project Site to be in an area of medium sensitivity for archaeological resources. There were no archaeological resources identified during the pedestrian survey.

Therefore, the proposed project would result in no substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5. Despite the disturbances of the Study Area due to human activities and environmental factors that may have displaced archaeological resources on the surface, it is possible that intact archaeological resources exist at depth. As a result, recommended mitigation measures are provided in Section 8 to reduce potentially significant impacts to a less than significant level regarding previously undiscovered archaeological resources that may be accidentally encountered during project implementation.

1.2 – Historical Resources

The cultural resources records search results from the Eastern Information Center (CHRIS-EIC) indicated that there are no historical resources located within the Study Area. However, there are five (5) historic buildings/structures (P-33-012805/CA-RIV-07152H, P-33-013156, P-33-014709, and P-33-019841/CA-RIV-10094) located within a one-mile radius of the Study Area. None of these five (5) historic resources will be impacted by the proposed project. Additionally, a review of the City of Hemet Archaeological Resources Sensitivity Map was examined and found the Project Site to be located in an area of medium sensitivity for archaeological resources (City of Hemet General Plan: 2012). There were no historic resources identified during the pedestrian survey. Therefore, the proposed project would result in no adverse change in the significance of a historical resource as defined in §15064.5.

1.3 – Paleontological Resources

Results of the paleontological resources records search through NHMLAC indicate that no vertebrate fossil localities have been previously recorded within the Study Area or within a one-mile radius. Moreover, no paleontological resources were identified by MIG during the pedestrian survey. Nevertheless, the results of the literature review and the search at the NHMLAC indicate that the Study Area is situated upon younger Quaternary Alluvium, derived primarily as alluvial fan deposits from the Santa Rosa Hills to the southeast. These deposits are unlikely to contain significant fossil vertebrates in the uppermost layers, but finer-grained older Quaternary deposits that do contain significant vertebrates fossils may be underlined by older Quaternary deposits that extend into the Study Area at unknown depths (Dr. McLeod: 2020).

As a result, recommended mitigation measures are provided in Chapter 8 to reduce potentially significant impacts to previously undiscovered paleontological resources or unique geological features that may be accidentally encountered during project implementation to a less than significant level.

1.4 – Tribal Cultural Resources

CEQA defines Tribal Cultural Resources (TCR) as either a site, feature, place, or 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, that is listed or eligible for listing, on the CRHR or on a local register of historical resources as defined in Public Resources Code (PRC) Section 5020.1(k), or a resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant according to the historic register criteria in Public Resources Code Section 5024.1(c), and considering the significance of the resources to a California Native American Tribe.[1]

Results of the records research compiled from the CHRIS-EIC, Sacred Lands File Search commissioned through the NAHC, and a pedestrian field survey failed to indicate known TCR within the Study Area as specified in PRC Section 210741, 5020.1(k), or 5024.1. Despite the heavy disturbances of the Study Area that may have displaced or submerged archaeological resources relating to TCRs on the surface, intact tribal cultural resources may exist at depth given the proven prehistoric occupation of the region and the favorable natural conditions that would have attracted prehistoric inhabitants to the area. As a result, recommended mitigation measures are provided in Section 8 to reduce potentially significant impacts to previously undiscovered archaeological resources relating to TCRs that may be accidentally encountered during project implementation to a less than significant level.

AB 52 (Gatto, 2014) contains provisions requiring Cities, Counties, and other government entities to engage in tribal consultations for projects that are not exempt from the California Environmental Quality Act (CEQA). Government to government consultation may provide “Tribal Knowledge” of the Study Area that can be used in determining tribal cultural resources that cannot be obtained through other investigative means. Additionally, it is anticipated that during the application process, the City of Hemet Community Development Department (Lead Agency) will notify the tribes of the proposed project and will commence AB 52 consultations as specified in the regulations.

[1] California Public Resources Code Section 21074

2 – Introduction and Background

2.1 – Project Location

The Project Site is located within an urbanized setting on 32.10-acres of vacant land in the City of Hemet, County of Riverside, California (APN: 439-030-009, 439-030-010, and 439-040-023). The proposed application is for the new construction of a TESLA powered modular smart home factory. The factory will also include a showroom and model display area consisting of 7 buildings totaling approximately 250,000 square feet. The proposal includes seven (7) buildings including front retail stores (for associated vendors) and model home display village (five full functioning models).

The Project Site has a rectangular shape, located at 1321 and 1255 North State Street in the City of Hemet, Riverside County. The Project Site is centered with Industrial uses to the north, residential to the west, a mix of residential and commercial mini-storage to the south, and an industrial cement mix facility to the east, which resides within the City of San Jacinto (Figure 1: Regional and Vicinity Map). The Study Area is depicted in United States Geological Survey (USGS) 7.5' topographic map of San Jacinto California, topographic quadrangle in portions of unsectioned, Township 5 North, Range 1 West (see Figure 2: USGS Topographic Map). Land use surrounding the Project Site can be characterized as scattered residential housing, warehouse and self-storage complex, and vacant land. California State Route 79 is approximately 0.87 miles to the east of the Project Site.

2.2 – Scope Of Study And Personnel

MIG conducted a Phase I Cultural Resources Assessment of the Study Area from February 3 through March 13, 2020, to identify potential impacts to cultural resources (including archaeological, historical, and paleontological resources). Also., develop mitigation measures to avoid, reduce, or mitigate potential impacts to resources to comply with CEQA and local cultural resource guidelines. The scope of work for this assessment included a cultural resources records search through the CHRIS-EIC, a Sacred Lands File (SLF) search through the Native American Heritage Commission (NAHC), a paleontological resources records search through the NHMLAC, a pedestrian field survey, eligibility evaluations for the resources identified within the Study Area, impact analyses, and the recommendations of additional work and mitigation measures, if necessary. The assessment was managed, and this report compiled by Mr. Christopher Purtell, M.A., RPA. The record searches and site surveys were conducted by Mr. Purtell as well. Qualifications of key personnel are provided in Appendix A.

2.3 – Environmental Setting

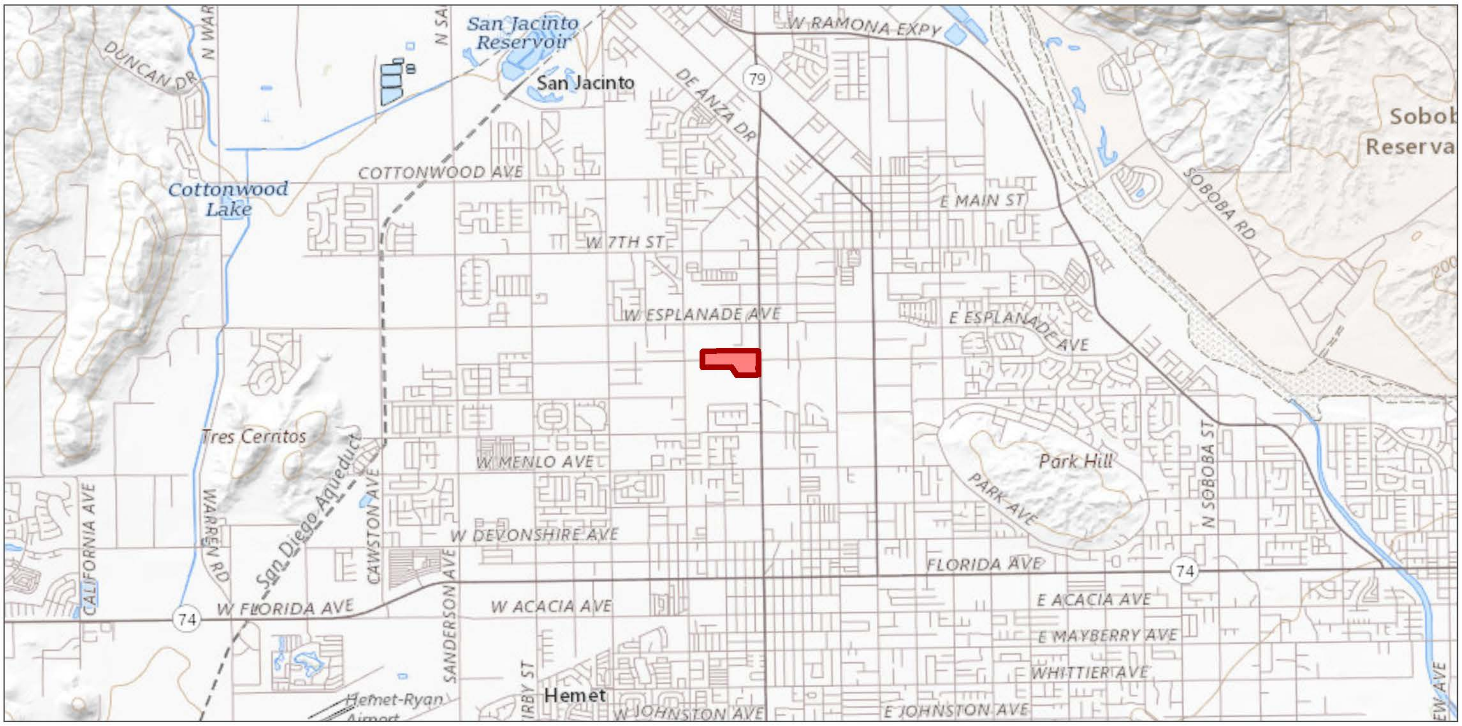
The Study Area is a 32.10-acre vacant parcel of land located within a semi urbanized area with industrial facilities to the north, residential to the west, a mix of residential and commercial mini-storage to the south, and an industrial cement mix facility to the east, located in the City of San Jacinto. The Project Site's topography is relatively flat, except in the western portion, which is elevated approximately 12-15 feet higher than the northern and southern sections. The slope's evaluation clearly separates the western portion of the Project Site along an east/west axis that runs the entire width of the site. Project Site elevations range between approximately 1,530-1,540 feet above mean sea level (AMSL). Historic Aerial Maps[2] show (1967-1980) that the Project Site has been undeveloped since at least 1967, except for Crow Nest Place, which appears as a two-track dirt road extending from North State Street to the west, beyond the project boundaries. A

[2] Historic Aerials. 1955-2016. Nationwide Environmental Title Research LLC. Electronically available at: https://www.historicaerials.com/viewer

review of historic topographic maps[3] (1952-1999) indicates that the Project Site has been undeveloped land since at least 1952. Additionally, the site exhibits a portion of a natural channel of unknown depth and width that enters the site in its northwest corner and exits through the southwest corner.

Geologically, the Study Area is located in the Peninsular Ranges' that extends from the Transverse Ranges' through the Los Angeles Basin and continuing approximately 775 miles south of the US-Mexico border. The Ranges' highest elevations are found in the San Jacinto and Santa Rosa Mountains, with San Jacinto Peak reaching 10,805 feet above mean sea level (amsl). The Peninsular Ranges' are bounded on the west by the Transverse Ranges' and on the east by the Colorado Desert, and include Orange County and the San Jacinto Mountains and the Coachella Valley in the northern portion of Riverside County (Norris and Webb 1976). Previous geological mapping of the Study Area (McLeod 2020) indicates younger Quaternary Alluvium sedimentary materials, derived as alluvial fan deposits from the Santa Rosa Hills to the southeast. These younger Quaternary Alluvium materials are underlain by older Quaternary deposits that extend into the Study Area at unknown depths.

[3] Historic Topographic Maps. 1901-2016. Nationwide Environmental Title Research LLC. Electronically available at: https://www.historicaerials.com/viewer



Regional

Source: ESRI 2020

Project Site Boundary (32.05 ac)

Vicinity

Figure 1 Regional and Vicinity Map

S2A Modular Project Site, City of Hemet, Riverside County, CA

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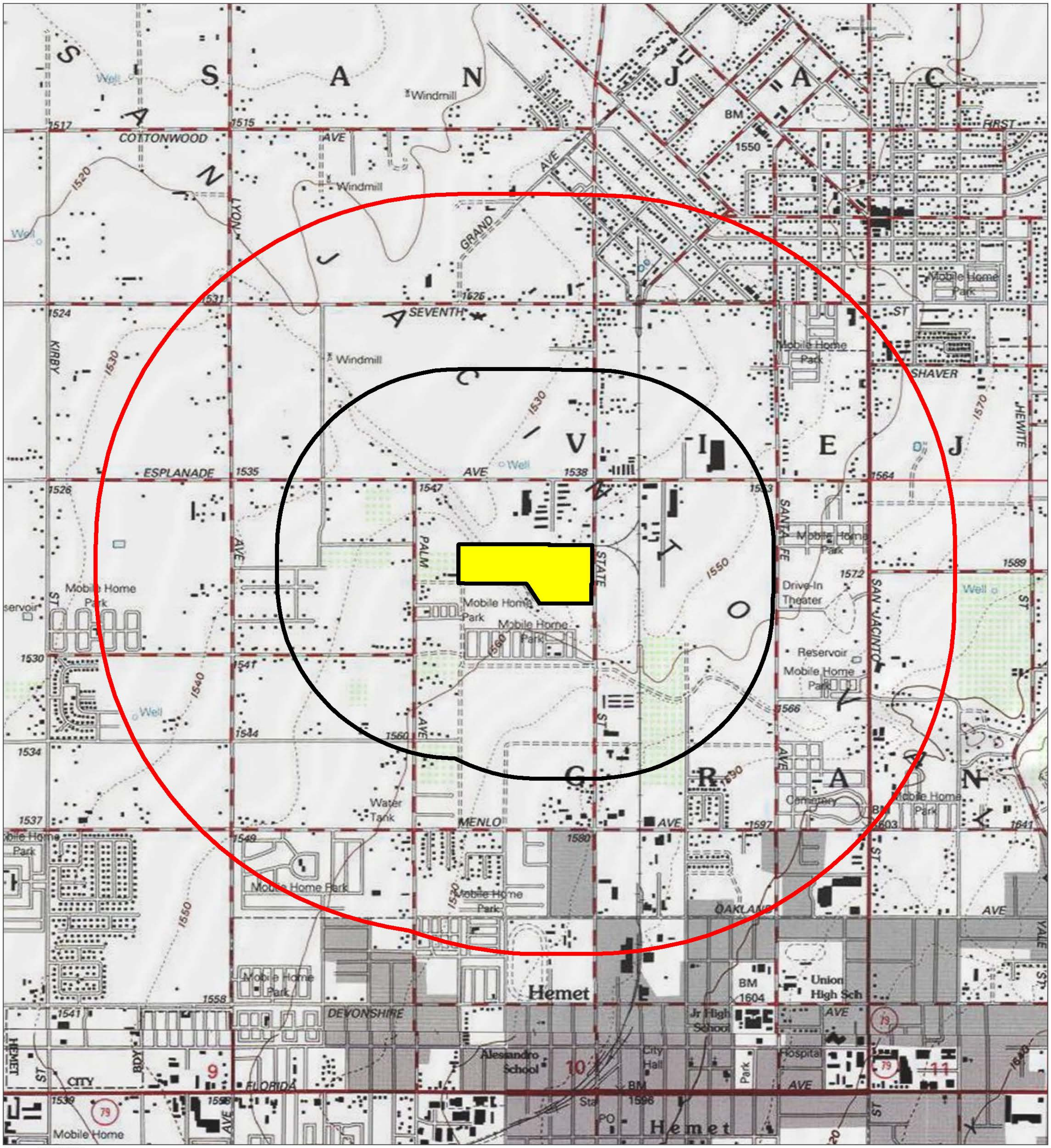

Source: ESRI 2020

Project Site Boundary (32.05 ac)
Project Site Buffer: 0.5 mile
Project Site Buffer: 1 mile

San Jacinto (1996) USGS 7.5" Quadrangle
Section: None
Township: 5 North
Range: 1 West
Scale: 1:24,000

0 0.25 0.5 Miles

Figure 2 USGS Topographic Map

S2A Modular Project Site, Hemet, CA

MIG

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3 – Regulatory Setting

Regulatory Framework
Cultural resources are indirectly protected under the provisions of the Federal Antiquities Act of 1906 (16 U.S.C §§ 431 et seq.) and subsequent related legislation, regulations, policies, and guidance documents. The following is a summary of the applicable (federal, state, and local) regulatory framework related to the protection of cultural resources in California.

Numerous laws and regulations require federal, state, and local agencies to consider the effects of a proposed project on cultural resources. These laws and regulations establish a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Office and the Advisory Council on Historic Preservation). The National Historic Preservation Act (NHPA) of 1966, as amended, CEQA, and Public Resources Code (PRC) 5024, are the primary federal and state laws governing and affecting the preservation of cultural resources of national, state, regional, and local significance. Other relevant regulations and guidelines at the local level include the City's General Plan and Municipal Code. A description of the applicable laws, regulations, and guidelines are provided in the following paragraphs.

3.1 – Federal Level

3.1.1 – National Historic Preservation Act Of 1966
Enacted in 1966, the National Historic Preservation Act (NHPA) (16 U.S.C §§ 470 et seq.) declared a national policy of historic preservation and instituted a multifaceted program, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer (SHPO), provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assist Native American tribes in preserving their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP).

In summary, the NHPA establishes the nation's policy for historic preservation and sets in place a program for the preservation of historic properties by requiring federal agencies to consider effects to significant cultural resources (i.e. historic properties) prior to undertakings.

3.1.2 – Section 106 Of The Federal Guidelines
Section 106 of the NHPA states that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the NRHP and that the ACHP and SHPO must be afforded an opportunity to comment, through a process outlined in the ACHP regulations at 36 Code of Federal Regulations (CFR) Part 800, on such undertakings.

3.1.3 – National Register Of Historic Places
The NRHP was established by the NHPA in 1966 as "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history,

architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, or association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history.

Criterion B: It is associated with the lives of persons who are significant in our past.

Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction.

Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

Cemeteries, birthplaces, or graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that are primarily commemorative in nature are not considered eligible for the NRHP unless they satisfy certain conditions. In general, a resource must be at least 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

3.1.4 – Native American Graves Protection And Repatriation Act Of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

3.2 – State

3.2.1 – California Environmental Quality Act

Pursuant to CEQA, a historical resource is a resource listed in, or eligible for listing in, the California Register of Historical Resources (CRHR). In addition, resources included in a local register of historic resources or identified as significant in a local survey conducted in accordance with state guidelines are also considered historic resources under CEQA, unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR or is not included in a local register or survey shall not preclude a Lead Agency, as defined by CEQA, from determining that the resource may be a historic resource as defined in California Public Resources Code (PRC) Section 5024.1.

CEQA applies to archaeological resources when (1) the archaeological resource satisfies the definition of a historical resource or (2) the archaeological resource satisfies the definition of a "unique archaeological resource." A unique archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria:

1. The archaeological resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
2. The archaeological resource has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

Appendix G of the State CEQA Guidelines provides a set of sample questions that guide the evaluation of potential impacts with regard to cultural resources:

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

d) Disturb any human remains, including those interred outside of formal cemeteries?

3.2.2 – California Register Of Historical Resources

Created in 1992 and implemented in 1998, the California Register of Historical Resources (CRHR) is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate properties that are to be protected, to the extent prudent and feasible, from substantial adverse change." Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks (CHLs), numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys, or designated by local landmarks programs may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

Criterion 2: It is associated with the lives of persons important in our past.

Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values.

Criterion 4: It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to be recognizable as historic resources and to convey the reasons for their significance. It is possible that a resource whose integrity does not satisfy NRHP criteria may still be eligible for listing in the CRHR. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Resources that have achieved significance within the past 50 years also may be eligible for inclusion in the CRHR, provided that enough time has elapsed to obtain a scholarly perspective on the events or individuals associated with the resource.

3.3 – Other State Statutes And Regulations

3.3.1 – California Historical Landmarks

California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have statewide historical significance by meeting at least one of the criteria listed below. The resource must also be approved for designation by the County Board of Supervisors or the City or Town Council in whose jurisdiction it is located, be recommended by the State Historical Resources Commission, or be officially designated by the Director of California State Parks. The specific standards in use now were first applied in the designation of CHL No. 770. CHLs No. 770 and above are automatically listed in the CRHR.

To be eligible for designation as a Landmark, a resource must meet at least one of the following criteria:

1. The first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California).
2. Associated with an individual or group having a profound influence on the history of California.
3. A prototype of, or an outstanding example of, a period, style, architectural movement or construction or one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

3.3.2 – California Points Of Historical Interest

California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest (Points) designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historic resource may be designated as both a Landmark and a Point. If a Point is later granted status as a Landmark, the Point designation will be retired. In practice, the Point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance.

To be eligible for designation as a Point, a resource must meet at least one of the following criteria:

1. The first, last, only, or most significant of its type within the local geographic region (city or county).
2. Associated with an individual or group having a profound influence on the history of the local area.
3. A prototype of, or an outstanding example of, a period, style, architectural movement or construction of one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

3.3.3 – Native American Heritage Commission, Public Resources Code Sections 5097.9–5097.991

Section 5097.91 of the Public Resources Code (PRC) established the Native American Heritage Commission (NAHC), whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. Under Section 5097.9 of the PRC, a state policy of noninterference with the free expression or exercise of Native American religion was articulated along with a prohibition of severe or irreparable damage to Native American sanctified cemeteries, places of worship, religious or ceremonial sites, or sacred shrines located on public property. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives the notification of a discovery of Native American human remains from a county coroner. Section 5097.5 defines as a misdemeanor of the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

3.3.4 – California Native American Graves Protection And Repatriation Act Of 2001

Codified in the California Health and Safety Code Sections 8010–8030, the California Native American Graves Protection Act (NAGPRA) is consistent with the federal NAGPRA. Intended to "provide a seamless and consistent state policy to ensure that all California Indian human remains and cultural items be treated with dignity and respect," the California NAGPRA also encourages and provides a mechanism for the return of remains and cultural items to lineal descendants. Section 8025 established a Repatriation Oversight Commission to oversee this process. The act also provides a process for non–federally recognized tribes to file claims with agencies and museums for repatriation of human remains and cultural items.

3.3.5 – Senate Bill 18

Senate Bill (SB) 18 (California Government Code, Section 65352.3) incorporates the protection of California traditional tribal cultural places into land-use planning for cities, counties, and agencies by establishing responsibilities for local governments to contact, refer plans to, and consult with California Native American tribes as part of the adoption or amendment of any general or specific plan proposed on or after March 1, 2005. SB18 requires public notice to be sent to tribes listed on the Native American Heritage Commission's SB18 Tribal Consultation list within the geographical areas affected by the proposed changes. Tribes must respond to a local government notice within 90 days (unless a shorter time frame has been agreed upon by the tribe), indicating whether or not they want to consult with the local government. Consultations are to preserve or mitigate impacts to places, features, and objects described in Sections 5097.9 and 5097.993 of the Public Resources Code that may be affected by the proposed adoption or amendment to a general or specific plan.

3.3.6 – Assembly Bill 52

Assembly Bill (AB) 52 specifies that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment. AB 52 requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, if the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation, prior to determining whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. AB 52 specifies examples of mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources. The bill makes the above provisions applicable to projects that have a notice of preparation or a notice of negative declaration filed or mitigated negative declaration on or after July 1, 2015. AB 52 amends Sections 5097.94 and adds Sections 21073, 21074, 2108.3.1., 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3 to the California Public Resources Code (PRC), relating to Native Americans.

3.3.7 – Health And Safety Code, Sections 7050 And 7052

Health and Safety Code Section 7050.5 declares that, in the event of the discovery of human remains outside a dedicated cemetery, all ground disturbances must cease, and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

3.3.8 – Penal Code, Section 622.5

Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands but specifically excludes the landowner.

3.4 – City of Hemet

3.4.1 – Historic Resources Ordnance

The City of Hemet intends to adopt a historic resources ordinance that, among other things, establishes demolition and development policies for historic resources.[4] However, until that ordinance is adopted, the City will review demolition and development proposals for their impact on historic resources if the sites are:

- Located within the Downtown Historic Core area or
- Listed on the Eastern Information Center Historic Data File (1983 historic resources inventory) or
- Structures over 50 years old or otherwise noted as historically significant to the City of Hemet.

3.4.2 – City of Hemet Element

The City of Hemet has put forth numerous goals and policies within the Historic Resources Section of the General Plan. These policies were created to identify and preserve the City's unique historical, archaeological, and paleontological resources for future generations (City of Hemet General Plan 2012).[5]

Goal HR-1: Identify, maintain, protect, and enhance elements of Hemet's cultural, historic, social, economic, architectural, agricultural, archaeological, and scenic heritage.

Policies

HR-1.1: Preservation: encourage the preservation and re-use of historic structures, landscape features, roads, landmark trees, and trails as well as public access to significant scenic vistas, viewpoints, and view corridors.

HR-1.2: Appreciation: promote an understanding and appreciation of Hemet's history and built environment.

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[4] City of Hemet. January 2012. City of Hemet General Plan 2030, Chapter 9 Historic Resources: 9-19. . Electronically available at: https://www.hemetca.gov/DocumentCenter/View/809/9_Historic_Resources_web?bidId=

[5] City of Hemet. 24, January 2012. City of Hemet General Plan 2030, Chapter 9 Historic Resources: 9-21 & 9-22. Electronically available at: https://www.hemetca.gov/DocumentCenter/View/809/9_Historic_Resources_web?bidId=

HR-1.3: Incentives: provide incentives wherever possible to protect, preserve, and maintain the City's heritage by offering alternatives to demolition and encouraging restoration and rehabilitation. Where feasible, allocate resources and/or tax credits to prioritize the retrofitting of irreplaceable historic structures.

HR-1.4: Demolition Alternatives Require: development applications that include the demolition of structures older than 50 years or are listed in the Eastern Information Center Historic Data File for Riverside County, to consider alternatives to demolition such as architecturally compatible rehabilitation, adaptive reuse, and relocation.

HR-1.5: Neighborhood Character: encourage retention of the character of existing historic structures and design elements that define the built environment of the City's older neighborhoods.

HR-1.6: Use/Adaptive Re-use: encourage retention of structures in their original use or reconversion to their original use where feasible. Encourage sensitive, adaptive re-use where the original use is no longer feasible.

HR-1.7: Historic Design: encourage the incorporation of historic design features, as well as safety, when street or other public improvements are proposed in older neighborhoods and districts.

HR-1.8: Historic Building Code; utilize the California State Historic Building Code to facilitate the proper restoration and rehabilitation of historic structures.

Goal HR-2: Preserve significant archeological and paleontological resources in areas under the City's jurisdiction, to the greatest extent possible.

Policies

HR-2.1: Consultation: consult with the Soboba Band and any other interested Indian tribes to identify and appropriately address cultural resources and tribal sacred sites through the development review process. Require a Native American Statement as part of the environmental review process of development projects with identified cultural resources.

HR-2.2: Monitoring: require monitoring of new developments where resources or potential resources have been identified in the review process

HR-2.3: Evaluation: resources found prior to or during site development shall be evaluated by a qualified archaeologist or paleontologist, and appropriate mitigation measures shall be applied before the resumption of development activities. Development project proponents shall bear all costs associated with the monitoring and disposition of cultural resources management within the Project Site.

HR-2.4: Preferred Repository: to the extent practicable and appropriate, newly uncovered non-Native American archeological and paleontological resources shall be transferred to the Western Science Center of Diamond Valley for cataloguing, study and, if appropriate, display.

Goal HR-3: Foster increased community awareness and appreciation of Hemet's unique heritage.

Policies

HR-3.1: Program Coordination: coordinate with community organizations, local Indian tribes, property owners, educational institutions, and other governmental agencies to facilitate Hemet's historic preservation program.

HR-3.2: Activities/Events: encourage and promote activities and events designed to educate the community about the history of the Hemet area and the recognition of local historical and cultural resources.

4 – Cultural Setting

4.1 – Prehistoric Context

Prehistory is most easily discussed chronologically, in terms of environmental change and recognized cultural developments. Several chronologies have been proposed for inland Southern California, the most widely accepted of which is Wallace's four-part Horizon format (1955), which was later updated and revised by Claude Warren (1968). The advantages and weaknesses of Southern California chronological sequences are reviewed by Warren (in Moratto 1984), Chartkoff and Chartkoff (1984), and Heizer (1978). The following discussion is based on Warren's (1968) sequence, but the time frames have been adjusted to reflect more recent archaeological findings, interpretations, and advances in radiocarbon dating.

4.1.1 – Paleo-Indian Period (Ca. 13,000-11,000 Years Before Present [YBP])

Little is known of Paleo-Indian peoples in inland southern California, and the cultural history of this period follows that of North America in general. Recent discoveries in the Americas have challenged the theory that the first Americans migrated from Siberia, following a route from the Bering Strait into Canada and the Northwest Coast sometime after the Wisconsin Ice Sheet receded (ca. 14,000 YBP), and before the Bering Land Bridge was submerged (ca.12,000 YBP). Based on new research from the Pacific Rim, it has been proposed that modern humans settled islands of the eastern Pacific between 40,000 and 15,000 years ago. Evidence of coastal migration has also come from sites on islands off Alta and Baja California. As a result, these sites are contemporary with Clovis and Folsom points found in North America's interior regions. All of these new findings have made the coastal migration theory gain credibility in recent times (Erlandson et al. 2007).

The timing, manner, and location of the Bering Strait crossing are a matter of debate among archaeologists, but the initial migration probably occurred as the Laurentide Ice Sheet melted along the Alaskan Coast and interior Yukon. The earliest radiocarbon dates from the Paleo-Indian Period in North America come from the Arlington Springs Woman site on Santa Rosa Island, which is located approximately 36 miles off the coast of California and is approximately 150 miles west-northwest of the Study Area. These human remains date to approximately 13,000 YBP (Johnson, et al. 2002). Other early Paleo-Indian sites include the Monte Verde Creek site in Chile (Meltzer, et al. 1997) and the controversial Meadowcroft Rockshelter in Pennsylvania. Both sites have early levels dated roughly 12,000 YBP. Lifeways during the Paleo-Indian Period were characterized by highly mobile hunting and gathering. Prey included megafauna such as mammoth and technology included a distinctive flaked stone toolkit that has been identified across much of North America and into Central America. They likely used some plant foods, but the Paleo-Indian toolkit recovered archaeologically does not include many tools that can be identified as designed specifically for plant processing.

The megafauna that appears to have been the focus of Paleo-Indian life went extinct during a warming trend that began approximately 10,000 years ago, and both the extinction and climatic change (which included warmer temperatures in desert valleys and reduced precipitation in mountain areas) were factors in widespread cultural change. Subsistence and social practices continued to be organized around hunting and gathering, but the resource base was expanded to include a wider range of plant and game resources. Technological traditions also became more localized and included tools specifically for the processing of plants and other materials. This constellation of characteristics has been given the name "Archaic" and it was the most enduring of cultural adaptations to the North American environment throughout this time period.

4.1.2 – Archaic Period (Ca. 11,000-3,500 YBP)

The earliest Archaic Period life in inland southern California has been given the name San Dieguito tradition, after the San Diego area where it was first identified and studied (Warren 1968). Characteristic artifacts include stemmed projectile points, crescents, and leaf-shaped knives, which suggest a continued focus on large game, although not megafauna of the earlier Paleo-Indian period. Milling equipment appears in the archaeological record at approximately 7,500 years ago (Moratto 1984:158). Artifact assemblages with this equipment include basin milling stones and unshaped manos, projectile points, flexed burials under cairns, and cogged stones, and have been given the name La Jolla Complex (7,500–3,000 YBP). The transition from San Dieguito life to La Jolla life appears to have been an adaptation to drying of the climate after 8,000 YBP, which may have stimulated movements of desert peoples to the coastal regions, bringing milling stone technology with them. Groups in the coastal regions focused on mollusks, while inland groups relied on wild-seed gathering and acorn collecting.

4.1.3 – Late Prehistoric Period (Ca. 3,500 YBP-A.D. 1769)

Cultural responses to environmental changes around 4,000–3,000 YBP included a shift to more land-based gathering practices. This period was characterized by the increasing importance of acorn processing, which supplemented the resources from hunting and gathering. Meighan (1954) identified the period after A.D. 1400 as the San Luis Rey complex. San Luis Rey I (A.D. 1400–1750) is associated with bedrock mortars and milling stones, cremations, small triangular projectile points with concave bases, and Olivella beads. The San Luis Rey II (A.D. 1750–1850) period is marked by the addition of pottery, red and black pictographs, cremation urns, steatite arrow straighteners, and non-aboriginal materials (Meighan 1954:223, Keller and McCarthy 1989:6). Work at Cole Canyon and other sites in southern California suggests that this complex, and the ethnographically described life of the native people of the region, were well established by at least 1,000 YBP (Keller and McCarthy 1989:80).

4.1.4 – Ethnographic Context

Information presented in the California volume of the Handbook of North American Indians (Heizer 1978:575) shows the Study Area is located near the traditional territory of the Serrano, Luiseño, and Cahuilla. These ethnographic groups are described below.

4.1.5 – Serrano

The Serrano people speak the Takic language, which is similar to the dialect spoken by the Luiseño, Cahuilla, and Garbrielino's (Bean and Smith 1978). The name Serrano comes from the Spanish word: "mountaineer or highlander" and refers to the indigenous people inhabiting the San Bernardino Mountains east of the Cajon Pass and may have settled along the Santa Ana River as early as 8,000 B.C. Their territory has been difficult to define, but it can be reliably characterized as from the San Bernardino Mountains extending northeast to the Mojave River region and southeast to the Tejon Creek area. The Serrano people were hunter-gatherers and their diet consisted of small game such as rabbits, ground squirrels, and birds that were supplemented by pinion nuts, acorns, agave, tuber-vegetables, and prickly pears. Villages were based on exogamous moieties (marriage outside of one's clan) and their size ranged between 25 to a hundred people (Bean and Shipek 1978). The Yuhaviatam clan is known as the San Manuel Band of Mission Indians and the Maarenga' yam clan is known as the Morongo Band of Mission Indians, with a further, clan division for the Soboba Band of Luiseño Indians. The villagers lived in large communal dwellings made from tree branches that were covered with woven mats. Each family group had its own individual fireplace inside the dwelling, where they crafted mother-of-pearl inlay baskets and vessels that they trade with the Chumash and Tongvas. In 1771, the Serrano's were subjugated and absorbed into the San Gabriel Mission system that resulted in the loss of their freedom, culture, and customs. In 1891, the United States created the "San Manuel"

Indian Reservation after Chief Santos Manuel. From this date forward the Serrano Indians have been known as the San Manuel Band of Mission Indians (Boyd and Brown 1922 and San Manuel Band of Mission Indians 2010).

4.1.6 – Luiseño

The Luiseño are a Takic speaking people that are usually associated with coastal and inland areas of present-day Orange and southern Riverside counties, with cultural and social-behavioral characteristics similar to those of the Cahuilla, a tribal group generally linked with areas northeast of the San Jacinto Mountains. In fact, exchanges between the Luiseño and Cahuilla have been well documented. In context, the Study Area is considered a Luiseño area, though evidence of a Cahuilla presence may be identified (Robinson and Risher 1996:102-103). The term Luiseño derives from the mission named San Luis Rey and has been used in the region to refer to those Takic-speaking people associated with Mission San Luis Rey (Bean and Shipek 1978:550). The Luiseño shared boundaries with the Cahuilla, Cupeño, Gabrielino, and Kumeyaay groups on the east, north, and south, respectively. These different bands shared cultural and language traditions with the Luiseño. The Luiseño territory comprised from the coast to Agua Hedionda Creek on the south to near Aliso Creek on the northwest. The boundary extended inland to Santiago Peak, then across to the eastern side of Elsinore Fault Valley, then southward to the east of Palomar Mountain, then around the southern slope above the valley of San Jose (ibid.:550).

Their habitat covered every ecological zone from the ocean, sandy beaches, shallow inlets, coastal chaparral, grassy valleys oak groves, among various other niches. The primary food source consisted of game animals such as deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, and various species of birds. Next to game animals, acorns were the most single important staple, and six different species were utilized (ibid.:552). The Luiseño social structure is unclear; however, each village has a clan-tribelet-a group of people patrilineally related who owned an area in common and who were politically and economically autonomous from neighboring groups. The Luiseño were not organized into exogamous moieties such as their neighbors, Cahuilla, Cupeño, and Serrano (Strong 1929:291). The hereditary village chief held an administrative position that combined and controlled religious, economic, and warfare powers (Boscana 1846:43). Marriage was arranged by the parents of children and important lineages were allied through marriage. Reciprocally useful alliances were arranged between groups in different ecological niches, and became springboards of territorial expansion, especially following warfare and truces (White 1963:130). The Luiseño material culture included an array of tools that were made from stone, wood, bone, and shell, and which served to procure and process the region's resources. Needs for shelter and clothing were minimal in the region's forgiving climate, but considerable attention was devoted to personal decoration in ornaments, painting, and tattooing. The local pottery was well made, although it was not elaborately decorated (Laylander and Pham 2012).

4.1.7 – Cahuilla

The Cahuilla occupied a large area in the geographic center of southern California that was bisected by the Cocopa-Maricopa Trail in addition to Santa Fe and Yuman Trails. They occupied an area from the summit of the San Bernardino Mountains in the north to Borrego Springs and the Chocolate Mountains in the south, portions of the Colorado Desert west of Orocopia Mountain to the east, and the San Jacinto Plain near Riverside and the eastern slopes of Palomar Mountain to the west (Bean 1978). The Cahuilla hunted with throwing sticks, clubs, nets, traps, deadfalls with seed triggers, spring-poled snares, arrows (often poison-tipped), and self-backed and sinew-backed bows. They sometimes fired bush clumps to drive game out in the open, and flares to attract birds at night. Baskets of various kinds were used for winnowing, leaching, grinding, transporting, parching, storing, and cooking. Pottery vessels were used for carrying water for storage, cooking, serving food, and drink. Cahuilla tools included mortars and pestles, manos and metates, fire drills, awls, arrow-straighteners, flint knives, wood, horn, bone spoons and stirrers, scrapers, and hammerstones. Woven rabbit skin blankets served to keep people warm in cold weather. Feathered costumes were worn for ceremonial events, and at these events the Cahuilla made music using rattles derived from insect cocoon, turtle and tortoiseshell, deer-hoofs, along with wood rasps, bone whistles, bull-roarers, and flutes, to make music. They wove bags, storage pouches, cords, and nets from the fibers of yucca.

4.1.8 – European Contact

European contact with the Native American groups that likely inhabited the Study Area and the surrounding region began in 1542 when Spanish explorer, Juan Rodriguez Cabrillo, arrived by sea during his navigation of the California coast. Sebastian Vizcaino arrived in 1602 during his expedition to explore and map the western coast that Cabrillo visited 60 years earlier. In 1769, another Spanish explorer, Gaspar de Portola, passed through Luiseño/Kumeyaay territory and interacted with the local indigenous groups. In 1798, Mission San Luis Rey was established by the Spanish and it likely integrated the Native Americans from the surrounding region. Multiple epidemics took a great toll on Native American populations between approximately 1800 and the early 1860s (Porretta 1983), along with the cultural and political upheavals that came with European, Mexican, and American settlement (Goldberg 2001:50-52). At the beginning of the nineteenth century, some Spaniards who had worked at the missions began to set up what would later be known as the “Ranchos.” The Rancho era in California history was a period when the entire state was divided into large parcels of land equaling thousands of acres apiece. These large estates were ruled over in a semi-feudal manner by men who had been deeded the land by first the Spanish crown, and later the Mexican government. In 1821 Mexico won independence from Spain and began to dismantle the mission system in California. As the missions began to secularize, they were transformed into small towns and most Native Americans would later be marginalized into reservations or into American society. It was during this time that “Americans” began to enter California. Many of the American Californians married into the Rancho families, a development that would transform land ownership in Mexican California. By the time the United States annexed California after the Mexican-American War in 1850, much of the Rancho lands were already in the hands of Americans.

5 – Methods

5.1 – Cultural Resources Records Search

On February 27, 2020, Mr. Purtell conducted a records search of the Study Area at the CHRIS-EIC. The records search included a review of all recorded archaeological and historical resources within a one-mile radius of the Study Area, as well as a review of cultural resource reports and historic topographic maps on file. In addition, MIG reviewed the California Points of Historical Interest (CPHI), the California Historical Landmarks (CHL), the California Register, the National Register, and the California State Historic Resources Inventory (HRI) listings. Finally, the City of Hemet Archaeological Resources Sensitivity Map was reviewed to determine the Project Site's sensitivity for archaeological resources.

The purpose of the records search and literature review is to determine whether previously recorded archaeological or historical resources exist within the Study Area that requires evaluation and treatment. The results also provide a basis for assessing the sensitivity of the Study Area for additional and buried cultural resources.

5.2 – Sacred Lands File Search And Native American Consultation

On February 11, 2020, Mr. Purtell commissioned a Sacred Lands File (SLF) records search of the Study Area through the NAHC. Results of the SLF records search provided information as to the nature and location of additional prehistoric or Native American resources to be incorporated in the assessment whose records may not be available at the CHRIS-EIC.

5.3 – Paleontological Resources Records Search

On December 16, 2020, Mr. Purtell commissioned a paleontological resources records search through the Vertebrate Paleontological Department of the Natural History Museum of Los Angeles County in Los Angeles, California. This institution maintains files of regional paleontological site records as well as supporting maps and documents. This records search entailed an examination of current geologic maps and known fossil localities inside and within the general vicinity of the Study Area. The objective of the records search was to determine the geological formations underlying the Study Area, whether any paleontological localities have previously been identified within the Study Area or in the same or similar formations near the Study Area, and the potential for excavations associated with the Study Area to encounter paleontological resources. The results also provide a basis for assessing the sensitivity of the Study Area for additional and buried paleontological resources.

5.4 – Pedestrian Survey

On March 2 and again on March 3, 2020, MIG Senior Archeologist (Mr. Purtell) conducted a pedestrian field survey of the Study Area to identify the presence or absence of archaeological, historical, or paleontological resources. Mr. Purtell surveyed 100-percent of the Study Area and detailed notes and digital photographs were also taken of the Study Area and surrounding vicinity.

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6 – Results

6.1 – Cultural Resources Records

Results of the records research conducted at the CHRIS-EIC indicate that no archaeological resources (prehistoric and historic) exist within the project boundaries. There is one (1) historic site: P-33-012805/CA-RIV-007152H (landscape and debris scatter), three (3) historic built environments (P-33-014709, P-33-019840, and P-33-019841), and one (1) historic isolate (P-33-013156) located within a one-mile radius of the Study Area (see Table 1). A review of the City of Hemet Archaeological Resources Sensitivity Map found that the Project Site to be located in an area of medium sensitivity for archaeological resources (see Figure 3: City of Hemet Cultural Resources Sensitivity Map).[6] None of these historic resources will be impacted by the proposed project. There were no archaeological (prehistoric or historic) resources identified during the pedestrian survey.

Table 1:
Previously Recorded Cultural Resources within the Study Area

Resource No.	Resource Type	Description	NRHP Eligibility	CRHR Eligibility	Distance from the Project Site
P-33-012805 CA-RIV-007152H	Historic Site	This historic site is a landscaped area, which encompasses segments of box wire fence, and a broad scatter of concrete blocks, bricks, and other architectural debris, from a possible residential home. The house construction dates from the early 1950's	Not Eligible	Not Eligible	¾ miles to the west
P-33-013156	Historic Isolate	The historic isolate is a single piece of sun-colored amethyst glass.	Not Eligible	Not Eligible	½ miles to the southwest
P-33-014709	Historic Water System	This historic water system is a remnants of a gravity-flow concrete standpipe irrigation system, including 30-inch valve pipes and a 10-inch flow control pipe connected by a buried concrete water line. This system was probably constructed for alfalfa cultivation, as one of the cast metal 10-inch flow pipe valves has "IDEAL ALFALFA VALVE" embossed onto it. The water system dates to the late 1950's.	Not Evaluated	Not Evaluated	¾ miles to the west
P-33-019840 CA-RIV-010093	Historic Buildings	This historic built environment is the Khuns compound, consisting of 14 residential buildings, a barn/work shop, four ancillary structures, and a former railroad refrigerator boxcar. Most of the buildings are single family residences that were purchased at auction and moved to this location in the mid and late 1950's.	Not Eligible	Not Eligible	½ miles to the northwest
P-33-019841 CA-RIV-010094	Historic Residence	This is the historic adobe of Francisco Estudillo's from 1860's until it burnt down in 1884. Additionally, there is a historic scatter consisting of hand blown glass bottles, an intact glass bottle, and ceramic fragments, located within the adobe site.	Not Evaluated	Not Evaluated	½ miles to the north

KEY:
NRHR = National Register of Historic Places
CRHP = California Register of Historic Resources

[6] City of Hemet. January 2012. City of Hemet General Plan 2030, Chapter 9 Historic Resources: 9-19. . Electronically available at: https://www.hemetca.gov/DocumentCenter/View/809/9_Historic_Resources_web?bidId=

The results of the record search indicate that there are two (2) cultural resource studies/reports (RI-016242 and RI-08160) previously conducted within the proposed Project Area. There are fourteen (14) cultural studies/reports that have been previously conducted within a one-mile radius of the Study Area (see Table 2, Previous Surveys within the Study Area). These studies were performed for nine (9) development projects, three (3) water construction projects, one (1) archaeological construction monitoring project, and one (1) Specific Plan. These studies were conducted between 1975 and 2017. The two previous studies conducted within the Project Site are briefly described below:

Table 2:
Previous Surveys within the Study Area

Report Number	Year	Report Title	Study	Authors
RI-00186	1975	.Archaeological Impact Report: Eastern Municipal Water District, Riverside County, California. PL 984 Water Systems Addition.	Water construction	Helen Wells
RI-01940	1985	An Archaeological Assessment Of Three Acres Of Land In The City of San Jacinto, Riverside County, California.	Development construction	Hogan, Michael
RI-04803	2003	Cultural Resources Survey, Proposed Residential Development Property, 1321 North Palm Avenue, Hemet, California (APN:441-090-051 & 441-100-021)	Development residential	Nixon, Joseph, M., and David M. Livingstone
RI-05559	2006	Phase I Cultural Resources Survey of 13.6 Acres In Hemet, Riverside County, California: APNS 439-070-020, -021, and -031.	Development not specified	Applied Earthworks
RI-5633	2004	A Cultural Resources Assessment Of A 10-Acre Parcel As Shown On Tentative Tract-Parcel Map No. 31717, Southwest Corner Of Esplanade Avenue and Santa Fe Street, City Of San Jacinto, Riverside County.	Development Lay-down yard	White, Robert, S. and Laura S. White
RI-06021	2003	Historical /Archaeological Resources Survey Report: Tentative Tract No. 31188, City of Hemet, Riverside County, California.	Development residential	Tang, BAI, Michael Hogan, Dahdul, and Daniel Ballester
RI-06242 ***Conducted within the Project Area**	2004	Historical/Archaeological Resources Survey Hemet/San Jacinto Water Treatment Plant Pipeline, In the Cities of Hemet and San Jacinto, Riverside, California.	Water pipeline construction	Tang, BAI, Michael Hogan, Dahdul, and Daniel Ballester
RI-06770	2006	Report Of Phase I Archaeological Assessment Of Parkside Project, Parcel Map 34515, City of San Jacinto, Riverside County. California	Development not specified	Demcak, Carol, R.
RI-06842	2006	An Archaeological And Paleontological Survey Report For The Santa Fe Places Project, 18.16-Acre Property In The City Of Hemet, Riverside, California	Development residential	Hoover, Anna, M., Hugh Wagner, and Leslie Nay Irish
RI-07008	2006	A Cultural Resources Assessment Of A 5± Acre Parcel Located Adjacent to Santa Fe Street South of Esplanade Avenue, City of Jacinto, Riverside County	Development residential	White, Robert S., and White, Laura S.
RI-07825	2007	Report of Archaeological Monitoring Of Parkside Project, Parcel Map No. 34515, City of San Jacinto, Riverside County, California.	Archaeological construction monitoring	Demcak, Carol R.

Report Number	Year	Report Title	Study	Authors
RI-08143	2008	Cultural Resources Records Search and Site Visit Results For Royal Street Commiunications California LLC Candidate LA3138A (Valley Wide Park), 901 West Esplanade Avenue, Hemet, Riverside County, California.	Cell Tower construction	Wayne Boonner and Marnie Ashln-Kay
RI-08160 *__Conducted within the Project Area__	2008	Historical/Archaeological Resources Survey Report: San Jacinto Master Drainage Plan, In And Near the City of San Jacinto, Riverside County, California	Water master drainage plan	Michael, Hogan and Bai Tang
RI-09098	2011	Phase I Cultural Resources Survey and Evaluation Report For The Kuhns Drive Redevelopment Project, City of San Jacinto, Riverside County, California	Redevelopment residential	Josh Smallwood
RI-09942	2002	Cultural Resources Assessment Prepared For Colleen Dooley Cingular Wireless SB-164-03, Natural Scent Company 592 West Esplanade Avenue, San Jacinto, CA.92583.	Cell Tower construction	Don Lewis
RI-10430	2017	Cultural Resources Study For The San Jacinto Downtown Specific Plan, San Jacinto, Riverside County	Specific Plan	Matthew Stever, Benjamin Scherzer, and Curt Duke

RI-06242: This study was conducted in 2004 and documents the results of the Historical/Archaeological Resources Survey Hemet/San Jacinto Water Treatment Plant Pipeline, in the Cities of Hemet and San Jacinto, Riverside, California. A cultural resources assessment was conducted that included a cultural resources record searches, archival review, and a pedestrian field survey of the approximately two-square-mile project area in the Cities of Hemet and San Jacinto. The cultural assessment concluded a finding of no impacts regarding cultural resources and no further action was recommended unless construction boundaries change.[7]

RI-08160: This study was conducted in 2004 and documents the results of the Historical/Archaeological Resources Survey Report: San Jacinto Master Drainage Plan, in and near the City of San Jacinto, Riverside County, California. A cultural resource assessment was conducted for the proposed project's APE. The assessment included a cultural resources records search, archival review, Native American consultation/scoping, and a pedestrian field survey of the approximate 30-400 feet wide by 30-mile APE. The results of these efforts found no prehistoric, historic, or historically significant resources located within the surveyed portions of the Project's APE. The assessment concluded that the APE will not cause a substantial adverse change to known culturally significant (prehistoric or historic) resources and recommended: "if buried cultural materials are discovered during any earth-moving operations all work in the area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds". [8]

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[7] CRM Tech. 16, 2004. Historical/Archaeological Resources Survey Hemet/San Jacinto Water Treatment Plant Pipeline, In the Cities of Hemet and San Jacinto, Riverside, California. Prepared by CRM Tech, Riverside, California 92501; prepared for Elan Associates, Ltd. (Mr. Greg Kahlen) Corona, California, 92881-6472. The report is available at the Eastern Information Center.

[8] CRM Tech. 22, October 2008. Historical/Archaeological Resources Survey Hemet/San Jacinto Water Treatment Plant Pipeline, In the Cities of Hemet and San Jacinto, Riverside, California. Prepared by CRM Tech, Colton, California 92324: prepared for City of San Jacinto Community Planning Department, San Jacinto, California 92583. The report is available at the Eastern Information Center.

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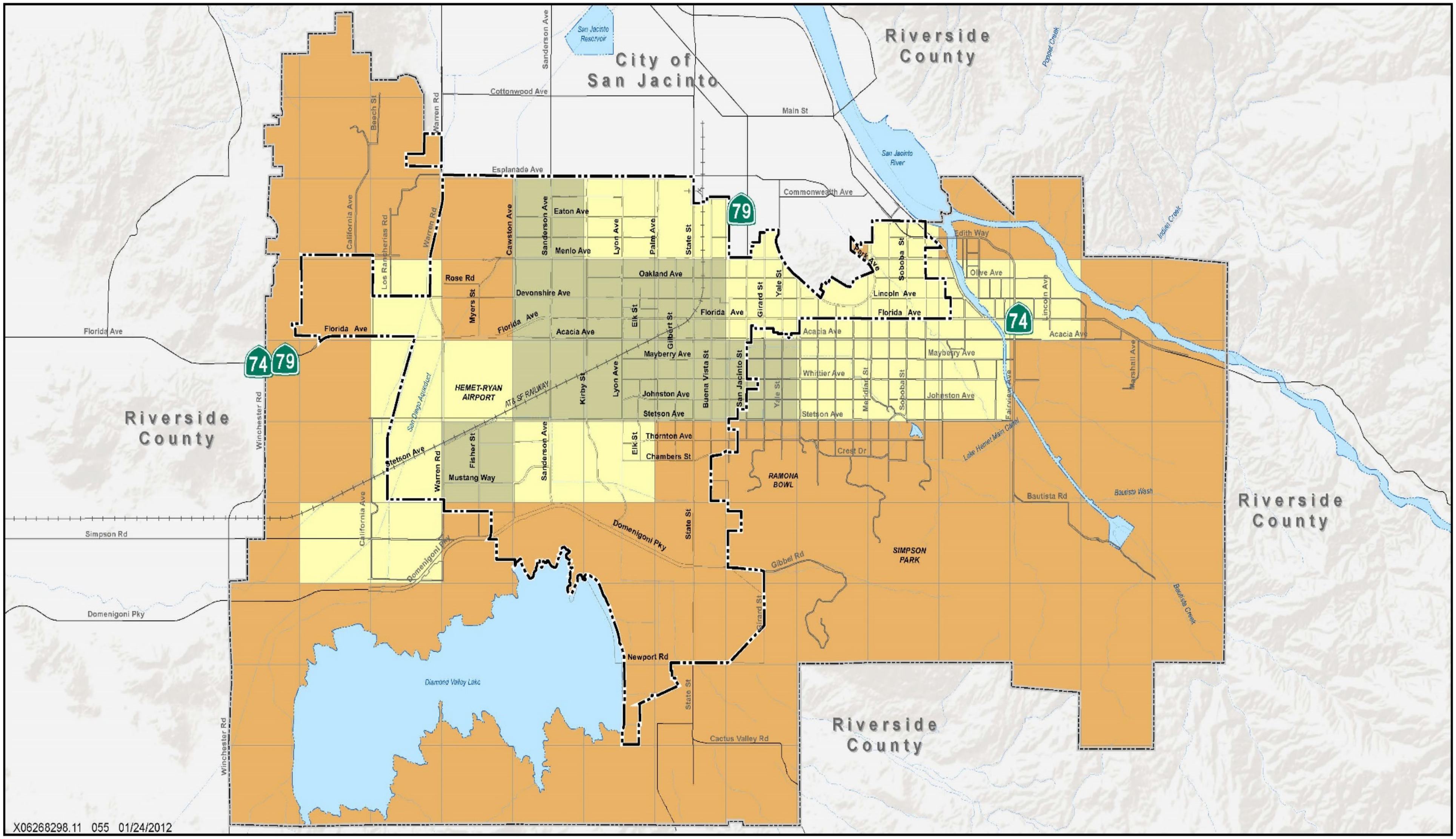

LEGEND

Archeological Sensitivity

- Low
- Medium
- High

- Hemet City Boundary
- Planning Area
- Street
- Railroad
- Creek/Canal
- River/Lake

Sources:
Census Tiger Line Data 2005
Applied Earthworks 2010
ESRI 2010

1 0.5 0 1 2 Miles

Figure 9.1
CULTURAL RESOURCE SENSITIVITY
Hemet General Plan

Figure 3 City of Hemet Cultural Resources Sensitivity Map

S2A Modular Project Site, Hemet, CA

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6.2 – Sacred Lands File Search And Native American Consultation

The NAHC SLF records search results (received February 24, 2020) revealed that no known "Native American cultural resources" in the SLF database are within the Project Site or within a one-mile radius of the Study Area. The NAHC records search results are provided in Appendix B of this report.

As per the NAHC suggested procedure, follow-up letters were sent via first class mail on February 26, 2020, to the 13 Native American individuals and organizations identified by the NAHC as being affiliated with the vicinity of the Study Area. The letters requested any additional information they may have about Native American cultural resources that may be affected by the proposed project.

As of March 26, 2020, MIG has received three (3) tribal responses from the Morongo Band of Mission Indians, the San Manuel Band of Mission Indians, and the Quechan Indian Tribe. The responses from the Morongo Band of Mission Indians and the San Manuel Band of Mission Indians were received on March 3, 2020. The Quechan Indian Tribe's response was received on March 6, 2020.

The Morongo Band of Mission Indians response: they "have no additional comments to provide at this time". The San Manuel Band of Mission Indians response: "the proposed project is located outside of Serrano ancestral territory and, as such, SMBMI will not be requesting consulting party status with the lead agency or requesting to participate in the scoping, development, and/or review of documents created pursuant to legal and regulatory mandates". The Quechan Indian Tribe response: "This email is to inform you that we do not wish to comment on this project".

As of March 26, 2020, MIG has received no other responses from the Native American community concerning the proposed project. MIG will keep the Applicant apprised with the progress of this on-going Native American consultation. The NAHC SLF records search results, the Native American contact list, and the Native American Consultation Matrix is provided in Appendix B of this report.

6.3 – Paleontological Resources Records Search

Results of the paleontological resources records search through NHMLAC indicate that no vertebrate fossil localities from the NHMLAC records have been previously recorded within the Study Area or within a one-mile radius.[9] Moreover, no paleontological resources were identified by MIG during the pedestrian survey.

6.4 – Pedestrian Survey

On March 2 and again on March 3, 2020, MIG Senior Archaeologist (Mr. Purtell) conducted a cultural resources field survey of 100-percent of the proposed Project Site. The results of the field survey indicated that there were no artifacts or cultural (prehistoric, historic, historic built environments, or paleontological) resources discovered or recorded during the course of the field survey (see Photographs 1-4).

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[9] McLeod, Samuel, Natural History Museum of Los Angeles County, Vertebrate Paleontology Section. 28, February,2020. Letter Report in support of the S2A Modular Factory Project to Chris Purtell, MIG, Inc. Riverside, CA


Photograph 1: Project Site, view towards the north


Photograph 2: Project Site, view towards the south

Photograph 3: Project Site, view towards the east

Photograph 4: Project Site, view towards the west.

6.4.1 – Other Study Area Conditions

The current physical layout of the Project Site can be broken down into three separate sections identified as Northern, Southern, and Western. At the time of the surveys, the Project Site is fenced off in all four cardinal directions. Entry was gained through the mobile home park located to the south/southwest and adjacent to (and is open to) the Project Site. Located within the project boundaries is a city street controlled by the City of Hemet and identified as Crows Nest Place that is also fenced off at North State Street and appears to be abandoned and in disrepair. Historic aerial photographs taken between 1967-1980 indicate that the project area is "Undeveloped." However, the field surveys shows that the Project Site to be highly disturbed, exhibiting a possible subsurface potable water pipeline and support facilities, telephone poles, a concrete culvert, wooded and metal fence posts, with barbwire fencing, and a line of non-native trees, possible olive trees planted in a north/south direction. These disturbances suggest man-made human activities from the recent past that would have included both surface and subsurface construction at unknown depths.

The Northern Section is located north of Crows Nest Place, south of the cement works, east of the elevated earthen slope, and west of North State Street. The Northern Section measures approximately 1,493 feet long by 621 feet wide. This Section is separated in the center by a metal post and barb wire fence; creating two distinct areas: eastern and western (Appendix D: Photograph 5). Wooden telephone poles line the southern boundary of this section in an east/west direction. Adjacent and on the south side of the telephone poles are several wooden fence posts in a deteriorated condition (Appendix D: Photographs 6-7). The Northern Section's western boundary is marked by a concrete culvert that runs the width of the Project Site along a northwest/southwest direction (Appendix D: Photograph 8-9).

The eastern portion of the northern section exhibits a man-made feature and a structure. The feature is a possible irrigation/drainage ditch and the structure is a circular sheet metal housing containing a possible water pump or support equipment for a subsurface water conveyance (Appendix D: Photographs 10). The ditch is located approximately 150 feet north of Crows Nest Place and is approximately 20 feet west of North State Street. The ditch measures approximately 3-4 feet wide by 2-3 feet deep and snakes along an east/west direction for approximately 100-feet and then abruptly ends. No other features or artifacts associated with the ditch were observed during the survey and the ditch doesn't appear on historical aerial photographs or Google Earth, and its construction and/or formation appears to be from the recent past.

The structure is a circular sheet metal housing containing possible water pump or support equipment for a water conveyance associated with a subsurface pipeline system. The structure is located in the northeast corner of the Project Site and is approximately 40 feet west of North State Street and approximately 150 feet north of Crows Nest Place. The circular structure is approximately 20 feet tall by 4 feet in diameter. The Project Site is known to contain several features associated with the subsurface water conveyance system, especially, in the western portion. The structure contained no exterior markings or embossments and doesn't appear on historical aerial photographs or Google Earth. However, previously conducted cultural studies/reports within the project area (RI-06242 & RI08160) suggest the structure was constructed in the recent past.

Vegetation in this section can be characterized as dense, exhibiting a low-lying ruderal plant species and wild grasses that are approximately 4 to 6 inches in height. Very shallow plowing/disking for possible weed abatement was evident in an east/west direction. Ground surface visibility was zero to five percent and when visible, the soil exhibited a light gray to medium brown color sediment with a loamy-silty texture. Scant bioturbation was observed throughout the site, possibly due to the dense ground cover. Moderate levels of modern-man-made trash consisting of, but not limited to, plastic and paper wrappers, cardboard boxes of various sizes, glass bottle fragments, and other miscellaneous trash was observed along North State Street as well as sparse scatters observed throughout this section.

The western portion of the Northern Section exhibits a man-made concrete culvert, a two-track dirt road, and an abandoned homeless camp (Appendix D: Photographs 11, 12, and 13). The culvert begins approximately 300 feet south of the north side boundary and 280 feet east of the western boundary and runs in a northwest/southwest direction, crossing underneath Crow Nest Place, then extends above ground into the Storage facility on the south side of the site. The culvert exhibits a shallow U shape, measuring approximately 800 feet long by 5 feet wide by 4 inches in depth. No other features or artifacts associated with the culvert were observed during the survey and the culvert doesn't appear on historical aerial photographs or Google Earth prior to 2006, suggesting its construction was in the recent past.

The two-track dirt road appears to part of a small network of dirt roads that intersected each other in the recent past. This road comes off another dirt road that's adjacent to Crows Nest Place. This road curves to the northwest towards the Western Section of the Project Site. The road is hard-packed, exhibiting a light tan color and measures approximately 385 feet long by 30 feet wide. No artifacts associated with the road or its construction were observed during the survey and the road doesn't appear on historical aerial photographs or Google Earth prior to 1996, suggesting its construction was in the recent past.

The homeless camp is located approximately 60 feet west of the culvert at the base of the upslope that separates the Western Section from the rest of the Project Site (Appendix D: Photograph 13). The camp is modern and appears to have been occupied in the last couple of weeks. The camp measures approximately 20 feet by 20 feet and exhibits a sleeping area composed of cardboard, foam pieces, and carpeting underneath a sleeping bag. Scattered around the sleeping area are various food containers, a small office trash can, female clothes and shoes, shot glasses, housewares, and a shopping basket with a 24 pack box of empty beer cans. Miscellaneous trash is scattered throughout the immediate area.

Vegetation in this section can be characterized as dense, exhibiting both high and low-lying ruderal plant species and wild grasses, with heights ranging between 4 inches to 6 feet. Very shallow plowing/disking for possible weed abatement was evident in an east/west direction. Ground surface visibility was zero to five percent and when visible, the soil exhibited a light gray to medium brown color sediment with a loamy-silty texture. Scant bioturbation was observed throughout the site, possibly due to the dense ground cover. Large to moderate levels of modern-man-made trash consisting of, but not limited to, plastic and paper wrappers, cardboard boxes of various sizes, glass bottle fragments, plastic syringes, spent pistol cartridges, a wooden pallet and pallet fragments, as well as miscellaneous trash that was observed around the homeless camp and adjacent to Crows Nest Place to the south (Appendix D: Photograph 14).

The Project's Southern Section is located south of Crows Nest Place and abuts up to the Storage facility to the south, North State Street to the east, and the concrete culvert to the west. Southern Section measures approximately 772 feet long by 226 feet wide. In this section, no features, structures, or trash scatters were observed or recorded (Appendix D: Photograph 15).

Vegetation in this section can be characterized as moderately dense, exhibiting both high and low-lying ruderal plant species and wild grasses ranging in height from 4 inches to 6 feet. Very shallow plowing/disking for possible weed abatement was evident in an east/west direction.

Ground surface visibility was zero to five percent and when visible, the soil exhibited a light gray to medium brown color sediment with a loamy-silty texture. Scant bioturbation was observed throughout the site, possibly due to the dense ground cover. Sparse levels of modern-man-made trash consisting of, but not limited to, plastic and paper wrappers, glass bottle fragments, and miscellaneous trash was observed along the North State Street fence to the east.

The Western Section abuts up against an undeveloped area on the north, a mobile home park on the south, the Project's Northern Section on the east, and residential housing on the west. The Western Section has a square shape and exhibits an elevated topography that is approximately 12-20 feet higher than the rest of the Project Site. This section measures approximately 559 feet long by 586 feet wide (Appendix D: Photograph 16). The section's elevation could be the results of a large natural drainage/channel and its runoff that separates the Western Section, as depicted on USGS Historic Topographic Map: San Jacinto (1954).[10] The drainage/channel appears to have been filled in or altered, sometime in the recent past.

This Section is fenced off on three sides (north, south, and west) by chain link fences that are approximately 6-8 feet in height. This section exhibits several man-made features, such as a possible Eastern Municipal Water District potable water well and pipeline, a hard-packed two-track dirt road, a row of non-native trees (olive), and several wooden telephone poles.

The proposed locations for the Eastern Municipal Water District's potable water well and pipeline within the Project Site was evaluated by CRM Tech's study (RI-06242), dated 2004.[11] The potable water well is located in the northwest corner of this section and consists of a singular concrete encasement, showing no manufacturing markings or embossments, and measures approximately 18 inches high by 24 inches in diameter (Appendix D: Photograph 17). No other artifacts or features associated with the well were observed or recorded. The pipeline is submerged and is located in the center of this section, along the western boundary against the fence line. Evidence of the pipeline consists of an EMWD metal sign and post, an aerated blue colored concrete pipe that measures approximately 36 inches high by 8 inches in diameter, and a row of the EMWD blue colored pin flags that run along a straight line from the aerated pipe eastward (Appendix D: Photographs 18, 19, and 20). No other artifacts or features associated with the pipeline were observed or recorded. Both the water well and pipeline are not eligible for listing in the NRPH or the CRHR as they are less than 45 years old and are not age-eligible.

The two-track dirt road is hard-packed, located on the eastern boundary that runs in a north/south direction, exhibiting a light-colored tan sediment, and measures approximately 30 feet wide by 300 feet long. Historic Google Earth (1966) shows the road circling the entire Western Section in an oval shape. No artifacts associated with the road or its construction were observed during the survey and the road doesn't appear on historical aerial photographs or Google Earth prior to 1996, suggesting its construction was in the recent past (Appendix D: Photograph 21).

In this section, there are thirteen trees (non-native), located west and adjacent to the two-track dirt road (Appendix D: Photograph 22). The trees are spaced approximately 4-5 feet apart from each other, positioned in a north/south direction, appear to be in poor condition and could be the remnants of a possible orchard. No artifacts associated with the trees or a possible orchard were

[10] U.S. Geological Survey Topographic Map 1954 7.5-minute series, Quadrant: San Jacinto, California.

[11] CRM Tech. 22, October 2008. Historical/Archaeological Resources Survey Hemet/San Jacinto Water Treatment Plant Pipeline, In- the Cities of Hemet and San Jacinto, Riverside, California. Prepared by CRM Tech, Colton, California 92324: prepared for City of San Jacinto Community Planning Department, San Jacinto, California 92583. The report is available at the Eastern Information Center.

observed during the survey and the trees don't appear on historical topographic maps or Google Earth prior to 1996, suggesting the trees were planted in the recent past.

In this section, there are also four (4) wooden telephone poles located among the non-native trees along the eastern boundary in a north/south direction Appendix D: Photograph 23). The telephone poles appear to be connected by transmission lines with the poles located along the southern boundary of the Northern Section. No artifacts associated with the telephone poles, lines, or their installation were observed during the survey and the poles don't appear on historical aerial photographs or on Google Earth prior to 1996, suggesting its construction was in the recent past.

Vegetation in this section can be characterized as moderately dense, exhibiting both high and low-lying ruderal plant species and wild grasses, ranging in height from 4-inches and up to 6-feet. Very shallow plowing/disking for possible weed abatement was evident in an east/west direction. Ground surface visibility was zero to five percent and when visible, the soil exhibited a light gray to medium brown color sediment with a loamy-silty texture. Scant bioturbation was observed throughout the site, possibly due to the dense ground cover. Sparse to moderate levels of modern-man-made trash consisting of a bed mattress, a living room couch, assorted housewares, paper wrappers, glass bottle fragments, and other miscellaneous trash, was observed along the fence line adjacent to the mobile home park (Appendix D: Photograph 24).

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7 – Evaluation

Evaluation of cultural resources is determined by conducting an "evaluation" of a resource's eligibility for listing in the California Register; determining whether it qualifies as a "unique archaeological resource" and determining whether the resource retains integrity. This is achieved by applying the California Register criteria (including criteria for a "unique archaeological resource") as defined in Chapter 2 of this report. If a resource is determined eligible for listing in the California Register or qualifies as a "unique archaeological resource" and retains integrity, then the resource is considered an archaeological resource or a historical resource pursuant to CEQA §15064.5, and any substantial adverse change to the resource is considered a significant impact on the environment. The CEQA guidelines do not provide criteria to evaluate paleontological resources.

7.1 – Archaeological Resources

As discussed previously in Section 6, no known archaeological resources from the EIC records were recorded within the Project Site or within a one-mile radius of the Study Area and there is one (1) historic archaeological isolate (P-33-013156) located within a one-mile radius of the Study Area. A review of the City of Hemet Archaeological Resources Sensitivity Map found that the Project Site to be located in an area of medium sensitivity for archaeological resources.[12] The one historic archaeological isolate will not be impacted by the proposed Project. There were no archaeological resources identified during the pedestrian survey; therefore, no evaluation of archaeological resources is necessary. However, despite the disturbances of the Study Area that may have displaced archaeological resources on the surface, it is possible that intact archaeological resources exist at depth. As a result, recommended mitigation measures are provided in Chapter 8 to reduce potentially significant impacts to previously undiscovered archaeological resources that may be accidentally encountered during project implementation to a less than significant level.

7.2 – Historical Resources

As discussed previously in Section 6, the results from the CHRIS-EIC indicated that there were no previously recorded historical resources within the Study Area and no historical resources were identified during the pedestrian survey. However, there is one (1) historic site: P-33-012805/CA-Riv-007152H (landscape and debris scatter), and three (3) historic built environments (P-33-014709, P-33-019840, and P-33-019841) located within a one-mile radius of the Study Area. These historic resources will not be impacted by the proposed Project; therefore, no impact analysis of historical resources is necessary.

7.3 – Paleontological Resources

As discussed previously in Chapter 6, the results of the paleontological resources records search through NHMLAC indicate that no vertebrate fossil localities from the NHMLAC records have been previously recorded within the Study Area or within a one-mile radius. Moreover, no paleontological resources were identified by MIG during the pedestrian survey. The literature review and the search at the NHMLAC indicate that the Study Area is situated upon younger Quaternary Alluvium, derived primarily as alluvial fan deposits from the Santa Rosa Hills to the southeast. These deposits are unlikely to contain significant fossil vertebrates in the uppermost layers, but finer-grained older Quaternary deposits that do contain significant vertebrates fossils

[12] City of Hemet. January 2012. City of Hemet General Plan 2030, Chapter 9 Historic Resources: 9-19. . Electronically available at: https://www.hemetca.gov/DocumentCenter/View/809/9_Historic_Resources_web?bidId=

may be underlined by older Quaternary deposits that extend into the Study Area at unknown depths (Dr. McLeod: 2020).[13]

Consequently, the Project Site has a moderately low sensitivity level to encounter subsurface paleontological fossils or unique geological features during project implementation. As a result, recommended mitigation measures are provided in Chapter 8 to reduce potentially significant impacts to previously undiscovered paleontological resources or unique geological features that may be accidentally encountered during project implementation to a less than significant level.

7.4 – Human Remains

No known human remains have been identified from the database within a one-mile radius of the Study Area. No human remains were identified during the pedestrian survey of the Study Area. However, these findings do not preclude the existence of previously unknown human remains located below the ground surface, which may be encountered during construction excavations associated with the proposed project. Similar to the discussion regarding archaeological resources above, it is also possible to encounter buried human remains during construction given the proven prehistoric occupation of the region, the identification of multiple surface archaeological resources within two-miles of the Study Area, and the favorable natural conditions that would have attracted prehistoric inhabitants to the area. As a result, mitigation measures are recommended in the following chapter that would reduce potentially significant impacts to previously unknown human remains that may be unexpectedly discovered during project implementation to a less than significant level.

7.5 – Tribal Cultural Resources

As discussed in Section 6, the results of the records research compiled from the CHRIS-EIC, a Sacred Lands File Search commissioned through the NAHC, and a pedestrian field survey failed to indicate known TCR within the Study Area as specified in PRC Section 210741, 5020.1(k), or 5024.1. Despite the disturbances of the Study Area that may have displaced or submerged archaeological resources relating to TCRs on the surface, intact tribal cultural resources may exist at depth given the proven prehistoric occupation of the region and the favorable natural conditions that would have attracted prehistoric inhabitants to the area. As a result, recommended mitigation measures are provided in Section 8 to reduce potentially significant impacts to previously undiscovered archaeological resources relating to TCRs that may be accidentally encountered during project implementation to a less than significant level.

At the time that this report was prepared, no additional information had yet been provided by affected tribes on potential TRC's within the Study Area. It is anticipated that during the application process the Lead Agency will notify the tribes of the S2A Modular factory Project (proposed) and will commence AB 52 Consultations as specified in the regulations.

[13] McLeod, Samuel, Natural History Museum of Los Angeles County, Vertebrate Paleontology Section. 28, February,2020. Letter Report in support of the S2A Modular Factory Project to Chris Purtell, MIG, Inc. Riverside, CA

8 – Recommended Mitigation Measures

8.1 – Archaeological Resources

In the event of the unanticipated discovery of archaeological or cultural resources relating to TCRs during earthmoving operations, the following mitigation measures are recommended to reduce potentially significant impacts to archaeological resources that are accidentally discovered during the implementation of the proposed project to a less than significant level.

Mitigation Measure CULT-1: **Conduct Archaeological Sensitivity Training for Construction Personnel.** The Applicant shall retain a qualified professional archaeologist who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards, to conduct an Archaeological Sensitivity Training for construction personnel prior to commencement of excavation activities. The training session shall be carried out by a cultural resource professional with expertise in archaeology, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards. The training session will include a handout and will focus on how to identify archaeological resources that may be encountered during earthmoving activities and the procedures to be followed in such an event, the duties of archaeological monitors, and the general steps a qualified professional archaeologist would follow in conducting a salvage investigation if one is necessary.

Mitigation Measure CULT-2: Cease Ground-Disturbing Activities and Implement Treatment Plan if Archaeological Resources Are Encountered. In the event that archaeological resources are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 50 feet shall be established around the find where construction activities shall not be allowed to continue until a qualified archaeologist has examined the newly discovered artifact(s) and has evaluated the area of the find. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by project construction activities shall be evaluated by a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards. Should the newly discovered artifacts be determined to be prehistoric, Native American Tribes/Individuals should be contacted and consulted and Native American construction monitoring should be initiated. The Applicant and City shall coordinate with the archaeologist to develop an appropriate treatment plan for the resources. The plan may include the implementation of archaeological data recovery excavations to address the treatment of the resource along with subsequent laboratory processing and analysis.

Mitigation Measure CULT-3: Conduct Periodic Archeological Resources Spot Checks during grading and earth-moving activities in Younger Alluvial Sediments. The applicant shall retain a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards to conduct periodic Archaeological Spot Checks beginning at depths below three (3) feet to determine if construction excavations have exposed or have a high probability of exposing archaeological resources. After the initial Archaeological Spot Check, further periodic checks will be conducted at the discretion of the qualified archaeologist. If the qualified archaeologist determines that construction excavations have exposed or have a high probability of exposing archaeological artifacts, construction monitoring for archaeological resources will be required. The applicant shall retain a qualified archaeological monitor, who will work under the guidance and direction of a professional archaeologist, who meets the qualifications set forth by the U.S. Secretary of the Interior's Professional Qualifications and Standards. The archaeological monitor shall be present during all construction excavations (e.g., grading, trenching, or clearing/grubbing) into non-fill younger Pleistocene alluvial sediments.

Multiple earth-moving construction activities may require multiple archaeological monitors. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus artificial fill soils), the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the project archaeologist.

Mitigation Measure CULT-4: Prepare Report Upon Completion of Monitoring Services. The qualified professional archaeologist who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards shall prepare a final report at the conclusion of archaeological monitoring (if required). The report shall be submitted to the applicant, the Eastern Information Center, the City, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures. The report shall include a description of resources unearthed, if any, evaluation of the resources with respect to the California Register and CEQA, and treatment of the resources.

8.2 – Historical Resources

The proposed project would not impact historical resources; therefore, no mitigation measures are recommended.

8.3 – Paleontological Resources

The following mitigation measures have been recommended to reduce potentially significant impacts to paleontological resources as recommended by the NHMLAC to a less than significant level.

Mitigation Measure CULT-6: Conduct Paleontological Sensitivity Training for Construction Personnel. The applicant shall retain a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology and shall conduct a paleontological sensitivity training for construction personnel prior to commencement of excavation activities. The training will include a handout and will focus on how to identify paleontological resources that may be encountered during earthmoving activities and the procedures to be followed in such an event, the duties of paleontological monitors, notification and other procedures to follow upon discovery of resources, and the general steps a qualified professional paleontologist would follow in conducting a salvage investigation if one is necessary.

Mitigation Measure CULT-7: Conduct Periodic Paleontological Spot Checks during Grading and Earth-moving Activities. The applicant shall retain a professional paleontologist who meets the qualifications set forth by the Society of Vertebrate Paleontology and shall conduct periodic Paleontological Spot Checks beginning at depths below six feet to determine if construction excavations have extended into older Quaternary deposits. After the initial paleontological spot check, further periodic checks will be conducted at the discretion of the qualified paleontologist. If the qualified paleontologist determines that construction excavations have extended into the older Quaternary deposits, construction monitoring for paleontological resources will be required. The applicant shall retain a qualified paleontological monitor, who will work under the guidance and direction of a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology. The paleontological monitor shall be present during all construction excavations (e.g., grading, trenching, or clearing/grubbing) into the older Pleistocene alluvial deposits. Multiple earth-moving construction activities may require multiple paleontological monitors. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known paleontological resources and/or unique geological features, the materials being excavated (native versus artificial fill soils), and the depth of excavation, and if found, the abundance and type of paleontological resources and/or unique geological features encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the qualified professional paleontologist.

Mitigation Measure CULT-8: Cease Ground-Disturbing Activities and Implement Treatment Plan if Paleontological Resources Are Encountered. If paleontological resources and or unique geological features are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 50 feet shall be established around the find where construction activities shall not be allowed to continue until an appropriate paleontological treatment plan has been approved by the applicant and the City. Work shall be allowed to continue outside of the buffer area. The applicant and City shall coordinate with a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology, to develop an appropriate treatment plan for the resources. Treatment may include the implementation of paleontological salvage excavations to remove the resource along with subsequent laboratory processing and analysis or preservation in place. At the paleontologist's discretion and to reduce construction delay, the grading and excavation contractor shall assist in removing rock samples for initial processing.

Mitigation Measure CULT-9: Prepare Report Upon Completion of Monitoring Services. Upon completion of the above activities, the professional paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted to the applicant, the City, the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures.

8.4 – Human Remains

For components of the proposed project that require excavation activities, the following mitigation measure is recommended to reduce potentially significant impacts to human remains to a less than significant level:

Mitigation Measure CULT-10: Cease Ground-Disturbing Activities and Notify County Coroner If Human Remains Are Encountered. If human remains are unearthed during the implementation of the proposed project, the City of Hemet and the applicant shall comply with the State Health and Safety Code Section 6050.5. The City of Hemet and the applicant shall immediately notify the County Coroner and no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendant (MLD). After the MLD has inspected the remains and the site, they have 48 hours to recommend to the landowner the treatment and/or disposal of the human remains with appropriate dignity and any associated funerary objects. Upon the reburial of the human remains, the MLD shall file a record of the reburial with the NAHC and the project archaeologist shall file a record of the reburial with the CHRIS-EIC. If the NAHC is unable to identify an MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94 if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance.

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10 – Appendix Materials

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APPENDIX A - KEY PERSONNEL

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Christopher W. Purtell, M.A., RPA

cwpurtell@gmail.com
562-243-3543

AREAS OF EXPERTISE

Cultural Resource Management /
Archaeological Investigations / Project Management

QUALIFICATIONS

As Director of MIG's Cultural Resources Group, Mr. Purtell has more than 13 years of professional experience in cultural resources project management, environmental compliance, subcontracting, archaeological survey, excavation, monitoring, data recovery, laboratory analysis, and in the development of mitigation and treatment plans; as well as over 10 years of experience in a decision-making capacity on cultural resources projects in California, Washington, and Oregon. He has undertaken and contributed to work efforts for prehistoric and historic archaeological, historic built environments, and paleontological investigations in the Great Basin, Mojave Desert, Southern and Northern California pursuant to the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), and Sections 106 and 110 of the National Historic Preservation Act (NHPA).

Mr. Purtell has successfully directed and coordinated cultural resource mitigation recommendations with a variety of lead and regulatory agencies, including Los Angeles County, Riverside County, San Bernardino County, Ventura County, Orange County, Kern County, Inyo County, and he has obtained Field Permits under the Archaeological Resources Protection Act (ARPA) from the U.S. Department of Interior, Bureau of Indian Affairs (BIA), Cultural Field Permits and Field Authorizations, with the Bureau of Land Management (BLM), among others. Mr. Purtell is a Registered Professional Archaeologist (RPA) and his training and background meet the U.S. Secretary of the Interior's Professional Qualifications Standards as a Principle Investigator and Field Director for prehistoric and historic archaeology.

Currently, Mr. Purtell directs the Cultural Resources Group and his duties includes: profit and loss responsibilities, budget management, scope preparation, project task administration, AB 52 administrative support, Native American scoping/consultation, subcontractor evaluation and procurement, coordination with lead agencies, clients, and project result meetings with the public and stakeholders both in public and in private forms. His duties also include cultural resources staff management, review and oversight of cultural surveys results and site recordation to include GIS management and databases, preparation of technical reports and overseeing the quality control assurance of all deliverables.

EDUCATION

- Master of Arts, Anthropology (Emphasis in Archaeology), California State University Fullerton, Fullerton, CA
- Bachelor of Arts, Anthropology/Archaeology (Honors in the Major), Minor in Geography, California State University Dominguez Hills, Carson, CA

AWARDS

- 2007–2008 Professional Distinction Award for Field and Laboratory Analysis, California State University, Fullerton, Graduate School of Anthropology

TRAINING

- OSHA 8-hr Annual HazWaste Operations Refresher Certification, March 2017
- OSHA 40-hr HazWaste Operations Certification (Certification No. 10052), January 2014
- 5-Phase Project Management by the UCLA Extension, Department of Engineering, Information Systems, and Technical Management, 1 April 2008.
- World Class TQM 40-Hour Boot Camp Workshop, Toyota Motor Corporation and Taught by Technical Change Associates, Inc. (R.L. Smith, and G. L. Jensen, Training Coordinators), 1 August 2001.

AFFILIATIONS

- Register of Professional Archaeologist (ID No. 990027)
- Society for American Archaeology (SAA)
- Society for California Archaeology (SCA)

RELEVANT EXPERIENCE

Phase I Cultural Assessment of the Proposed Agua Mansa Commerce Park. City of Jurupa Valley, County of Riverside, California (2016-2017).
Role: Cultural Resources Director / Senior Archaeologist
Client: Viridian Partners
Project Description: Viridian Partners, proposes the Agua Mansa Commerce Park Project to clean up and redevelop the existing 297.3-acre Riverside Cement Plant site.
Responsible for a Phase I Cultural Resources Assessment and Technical Report of the Project Area to determine the potential impacts to cultural resources for the purpose of complying with the California Environmental Quality Act.

Phase 1 Cultural Resources Assessment of the Proposed Groundwater Production Well No. 204 Project. City of Perris, County of Riverside, California (2016).
Role: Cultural Resources Director / Senior Archaeologist
Client: Eastern Municipal Water District
Project Description: The new construction and operation of a new portable groundwater production facility identified as Well No. 204, on 2.3-arces of land that includes: well head facilities and appurtenances, a new field office, water supply line, water discharge pump, settling tanks, drill rig, dog house, mud tank, blow off pond, pipe trailer, material and cutting storage area, and laydown yards.
Responsible for a Phase I Cultural Resources Assessment and Technical Report of the Project Area to determine the potential impacts to cultural resources for the purpose of complying with the California Environmental Quality Act.

Pipeline Safety Enhancement Plan (PSEP) SL32-21 Pasadena Hydro-test Project. City of Pasadena, County of Los Angeles, California (2015)
Role: Archaeological Specialist
Client: Southern California Gas Company
Project Description: To pressure test natural gas transmission pipelines that have not been tested to modern standards.
Responsible for a Phase I Cultural Resources Assessment, Technical Report, and Archaeological Construction Monitoring of the Project Area to reduce potential impacts to unknow cultural resources for the purpose of complying with the California Environmental Quality Act.

Cultural Resources Assessment for the Proposed North San Diego County Recycled Water Project. San Diego County, California (2015).
Role: Senior Archaeologist / Project Manager for PCR Service, Inc.
Client: RMC Water and Environment, Inc.
Project Description: The Project consists of the development of a regional recycled water, infrastructure that includes interagency connections to increase the capacity and connectivity of the recycled water storage and distribution systems of the Coalition.
Responsible for a comprehensive Phase I Cultural Assessment and Technical Report to reduce potential impacts to unknow cultural resources for the purpose of complying with the California Environmental Quality Act.

Grounding Rods and Laterals Installation at San Fernando Substation. City of Los Angeles, California (2014).
Role: Archaeological Specialist for SWCA Environmental Consultants.
Client: Southern California Edison Company
Project Description: Grounding rods and laterals were installed to limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and to stabilize the voltage to earth during normal operations.
Responsible for a Phase I Cultural Resources Assessment, Technical Report, and Archaeological Construction Monitoring in-order to reduce potential impacts to unknow cultural resources for the purpose of complying with the California Environmental Quality Act.

Archaeological Survey Report California Street Off-Ramp Project. City of Ventura, Ventura County, California (2014).
Role: Senior Archaeologist / Project Manager for Duke Cultural Resources Management, LLC.
Client: California Department of Transportation District 7 (Caltrans).
Project Description: The California Department of Transportation (Caltrans) propose to relocate the existing U.S. Route 101 (US-101) northbound off-ramp at California Street to Oak Street, and to replace the California Street Overcrossing in Ventura County, California.
Responsible for a comprehensive Phase I Cultural Assessment and Archaeological Survey Report to reduce potential impacts to unknow cultural resources for the purpose of complying with the National Historic Preservation Act (Section 106) and the California Environmental Quality Act.

Catalina Renewable Energy Project. Kern County, California (2010-2012).
Role: Senior Archaeological Resource Coordinator for Sapphos Environmental, Inc.
Client: EDF Renewables (formerly enXco).
Project Description: The project is a renewable energy development that would generate up to 350 Megawatts (MW) of electricity from wind turbines generators (WTGs) and photovoltaic (PV) solar system blocks on a 6,739-acre site.
Responsible for a comprehensive Phase I Cultural Assessment, Technical Report, and Archaeological Construction Monitoring to reduce potential impacts to unknow cultural resources for the purpose of complying with the National Historic Preservation Act (Section 106) and the California Environmental Quality Act.

Avalon Wind Energy Project. Kern County, California (2010-2012).
Role: Senior Archaeological Resources Coordinator for Sapphos Environmental, Inc.
Client: EDF Renewables (formerly enXco).
Project Description: The project is a renewable energy development that would generate up to 300 megawatts (MW) of electricity through use of wind power and would include up to 127 wind turbine generators (WTGs), supported by service roads, a power collection system, communication cables, overhead transmission lines, electrical switchyards, project substations, meteorological towers, and operations and maintenance facilities.
Responsible for a comprehensive Phase I Cultural Assessment, Technical Report, and Archaeological Construction Monitoring to reduce potential impacts to unknow cultural resources for the purpose of complying with the National Historic Preservation Act (Section 106) and the California Environmental Quality Act.

APPENDIX B - CONSULTATIONS AND RESPONSES

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Native American Heritage Commission
Native American Contact List
Riverside County
2/24/2020

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Agua Caliente Band of Cahuilla Indians
Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Augustine Band of Cahuilla Mission Indians
Amanda Vance, Chairperson
P.O. Box 846 — Cahuilla
Coachella, CA, 92236
Phone: (760) 398 - 4722
Fax: (760) 369-7161
hhaines@augustinetribe.com

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Parkway — Cahuilla
Indio, CA, 92203
Phone: (760) 342 - 2593
Fax: (760) 347-7880
jstapp@cabazonindians-nsn.gov

Cahuilla Band of Indians
Daniel Salgado, Chairperson
52701 U.S. Highway 371 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 5549
Fax: (951) 763-2808
Chairman@cahuilla.net

Los Coyotes Band of Cahuilla and Cupeño Indians
Shane Chapparosa, Chairperson
P.O. Box 189 — Cahuilla
Warner Springs, CA, 92086-0189
Phone: (760) 782 - 0711
Fax: (760) 782-0712

Morongo Band of Mission Indians
Denisa Torres, Cultural Resources Manager
12700 Pumarra Rroad — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Rroad — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

Pechanga Band of Luiseno Indians
Paul Macarro, Cultural Resources Coordinator
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6306
Fax: (951) 506-9491
pmacarro@pechanga-nsn.gov

Pechanga Band of Luiseno Indians
Mark Macarro, Chairperson
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6000
Fax: (951) 695-1778
epreston@pechanga-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed S2A Modular Factory Project, Riverside County.

Native American Heritage Commission
Native American Contact List
Riverside County
2/24/2020

Quechan Tribe of the Fort Yuma Reservation
Jill McCormick, Historic Preservation Officer
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

Quechan Tribe of the Fort Yuma Reservation
Manfred Scott, Acting Chairman Kw'ts'an Cultural Committee
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

Ramona Band of Cahuilla
Joseph Hamilton, Chairperson
P.O. Box 391670 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
admin@ramona-nsn.gov

Ramona Band of Cahuilla
John Gomez, Environmental Coordinator
P. O. Box 391670 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
jgomez@ramona-nsn.gov

San Manuel Band of Mission Indians
Jessica Mauck, Director of Cultural Resources
26569 Community Center Drive — Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
jmauck@sanmanuel-nsn.gov

Santa Rosa Band of Cahuilla Indians
Steven Estrada, Chairperson
P.O. Box 391820 — Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
mflaxbeard@santarosacahuilla-nsn.gov

Santa Rosa Band of Cahuilla Indians
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Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
mercedes.estrada@santarosacahuilla-nsn.gov

Soboba Band of Luiseno Indians
Scott Cozart, Chairperson
P. O. Box 487 — Cahuilla
San Jacinto, CA, 92583 — Luiseno
Phone: (951) 654 - 2765
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 — Cahuilla
San Jacinto, CA, 92581 — Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Torres-Martinez Desert Cahuilla Indians
Michael Mirelez, Cultural Resource Coordinator
P.O. Box 1160 — Cahuilla
Thermal, CA, 92274
Phone: (760) 399 - 0022
Fax: (760) 397-8146
mmirelez@tmdci.org

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed S2A Modular Factory Project, Riverside County.

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

February 24, 2020

Christopher W. Purtell
MIG

Via Email to: CPurtell@migcom.com

Re: S2A Modular Factory Project, Riverside County

Dear Mr. Purtell:

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: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

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Native American Consultation Record

Project Name: S2A Modular Factory
Project Number: 13644
NAHC Contact Initiated: 2/11/2020
NAHC Letter Received: 2/24/2020

Results: The NAHC did not identify any Native American cultural resources in the Sacred Lands File (SLF). The NAHC recommended that we contact thirteen (13) Native American groups/individuals.

Matrix prepared by Chris Purtell

Group/Name	Date contact was initiated	Method of contact	Response
Agua Caliente Band of Cahuilla Indians Patricia Garica-Plotkin, Director 760-699-6907	2/26/2020	U.S. First Class Mail	No response as of March 26, 2020.
Augstine Band of Cahuilla Mission Indians Amanda Vance, Chairperson 760-398-4722	2/26/2020	U.S. First Class Mail	No response as of March 26, 2020.
Cabzon Band of Mission Indians Doug Welmas, Chairpeson 760-342-2593	2/26/2020	U.S. First Class Mail	No response as of March 26, 2020.
Cahuilla Band of Indians Daniel Salgado, Chairperson 951-763-5549	2/26/2020	U.S. First Class Mail	No response as of March 26, 2020.
Quechan Tribe of the Fort Yuma Reservation Jill McCormick, HPO 760-572-2423	2/26/2020	U.S. First Class Mail	Email response received on March 6, 2020. The Tribe stated that: this email is to inform you that we do not wish to comment on this project.

Group/Name	Date contact was initiated	Method of contact	Response
Los Coyotes Band of Cahuilla and Cupeno Indians Shane Chapparosa, Chairperson 760-782-0711	2/26/2020	U.S. First Class Mail	No response as of March 26, 2020.
Morongo Band of Mission Indians Denisa Torres, Cultural Resources Mgr. 951-849-8807	2/26/2020	U.S. First Class Mail	Emailed received on March 3, 2020. The tribe stated: they "have no additional comments to provide at this time".
Pechanga Band of Luiseno Indians Paul Macarro, Cult. Resources Coord. 951-506-6491	2/26/2020	U.S. First Class Mail	No response as of March 26, 2020.
Ramona Band of Cahuilla John Gomez, Environmental Coordinator 951-763-4105	2/26/2020	U.S. First Class Mail	No response as of March 26, 2020.
San Manuel Band of Mission Indians Lee Clauss, Dir. Of Cultural Resources 909-864-8933	2/26/2020	U.S. First Class Mail	Emailed received on March 3, 2020. The Tribe stated: "have no additional comments to provide at this time". The San Manuel Band of Mission Indians stated: "the proposed project is located outside of Serrano ancestral territory and, as such, SMBMI will not be requesting consulting party status with the lead agency or requesting to participate in the scoping, development, and/or review of documents created pursuant to legal and regulatory mandates".
Santa Rosa Band of Cahuilla Indians Steven Estrada, Chairperson 951-659-2700	2/26/2020	U.S. First Class Mail	No response as of March 26, 2020.
Soboba Band of Luiseno Indians Joseph Ontiveros, Cultural Resources Director 951-663-5279	2/26/2020	U.S. First Class Mail	No response as of March 26, 2020.
Torres-Martinez Desert Cahuilla Michael Mirelez, Cult. Resources Dir. 760-397-8146	2/26/2020	U.S. First Class Mail	No response as of March 26, 2020.

APPENDIX C - PALEO LETTER

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Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

28 February 2020

MIG / Hogle-Ireland
1500 Iowa Avenue, Suite 110
Riverside, CA 92507

Attn: Christopher W. Purtell, Director of Cultural Resources

re: Vertebrate Paleontology Records Check for paleontological resources for the proposed S2A Modular Factory Project, near Hemet, Riverside County, project area

Dear Christopher:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed S2A Modular Factory Project, near Hemet, Riverside County, project area as outlined on the portion of the San Jacinto USGS topographic quadrangle map that you sent to me via e-mail on 14 February 2020. We do not have any vertebrate fossil localities that lie directly within the proposed project area boundaries, but we do have localities somewhat nearby from sedimentary deposits similar to those that probably occur at depth in the proposed project area.

Surface deposits in the entire proposed project area consist of younger Quaternary Alluvium, derived primarily as alluvial fan deposits from the Santa Rosa Hills to the southeast. These types of deposits typically do not produce significant vertebrate fossils, at least in the uppermost layers, but they may be underlain by older Quaternary sediments that may well contain significant vertebrate fossils. Our closest vertebrate fossil locality from somewhat similar older Quaternary deposits is LACM 4540, from the gravel pits just west of Jack Rabbit Trail on the western side of Mt. Eden north-northwest of the proposed project area, that produced a specimen of fossil horse, *Equus*. Our next closest fossil vertebrate locality in somewhat similar older Quaternary sediments is LACM 7261, west of south of the proposed project area at Skinner Reservoir, that produced fossil specimens of mammoth, *Mammuthus*, and bison, *Bison*.

Shallow excavations in the surficial younger Quaternary Alluvium exposed throughout the proposed project area probably will not encounter any significant vertebrate fossils. Deeper excavations that extend down into older Quaternary deposits, however, may well uncover significant vertebrate fossil remains. Any substantial excavations below the uppermost layers, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Sediment samples should also be collected from the older deposits in the proposed project area and processed to determine their small fossil potential. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

APPENDIX D - SITE PHOTOS

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Photograph 5: Northern Section: Barbwire fence, view towards the south.

Photograph 6: Northern Section: Wooden telephones, view towards the west.

Photograph 7: Northern Section: Wood fence posts, view towards the east.

Photograph 8: Northern Section: Concrete culvert, view towards the north.

Photograph 9: Northern/Southern Section: concrete culvert, views towards the south.

Photograph 10: Northern Section: Circular sheet metal structure, view towards the north.

Photograph 11: Western Portion, Northern Section: Concrete culvert, view towards the northeast.

Photograph 12: Western Portion, Northern Section: Two Track Dirt Road, view towards the northeast.

Photograph 13: Western Portion, Northern Section: Homeless camp, view towards the west.

Photograph 14: Western Portion, Northern Section: Plastic syringe, close-up.


Photograph 15: Southern Section Overview, view towards the southeast.


Photograph 16: Western Portion: Elevated slope, view towards the west.

Photograph 17: Western Portion: Water Well, View towards, the northeast.

Photograph 18: Western Portion: EMWD notification, View towards the, west.

Photograph 19: Western Section: EMWD: aerated concrete pipe, view towards the west.

Photograph 20: Western Section: EMWD pin flag marking underground pipeline location view towards the east.

Photograph 21: Western Section: Two-track dirt road, view towards the northwest.

Photograph 22: Western Section: Non-native trees, view towards the southeast.

Photograph 23: Western Section: Wooden telephone poles, view towards the east.

Photograph 24: Western Section: Discarded furniture, view towards the east.

September 26, 2019 Project No.19-805 Fault

Mr. John Rowland
23811 Washington Avenue
Murrieta, California 92562
John@s2amodular.com

Subject: Fault Rupture Hazard Investigation, Proposed S2A Showroom and Factory Compound, APNs 439-030-009, 439-030-010 and 439-400-023, West of State Street and Crow's Nest Place, City of Hemet, Riverside County, California

.
Dear Mr. Rowland,

Presented herewith is our Fault Rupture Hazard Investigation for the subject site. The work was conducted in accordance with our proposal dated August 9, 2019 and your subsequent authorization to proceed. The purpose of this fault investigation was to meet the criteria outlined in Appendix A of the California Geological Survey Special Publication 42 (CGS, 2007) for human occupancy. The location of the project site is shown on the Site Location Map, Figure 1.

SCOPE OF WORK

The following services were performed for the subject site:

- Review of available geologic reports for the general site area and stereo pair aerial photos for the site and surrounding areas.

- Logging of two fault trenches (FT-1 and FT-2), which encompassed approximately 850 linear feet of excavation exposing topsoil, undocumented fill, colluvium and alluvium to depths of up to approximately 12 feet. The trench locations and excavation depths were determined based on our review of available geologic and geotechnical data and conditions exposed during the fault trench excavation.

- Preparation of this report presenting our findings.

GEOLOGIC FAULT STUDY

Site Description and Proposed Project Development

The site is currently a vacant dirt covered parcel of land which is covered with scattered trees, brush and grasses. A northwest to southeast trending 15 to 20 ft. high scarp (2:1 horizontal: vertical) transects the central portion of the site. The area to the southeast of the scarp the site is flat with elevations ranging from approximately 1525 to 1535 feet above mean sea level (msl). To the southwest of the scarp, the site is relatively flat with elevations ranging from 1550 to 1555 feet above msl. Scattered dirt roads cross the site. The site is bounded on the north by scattered residential, open fields, commercial and light industrial use; to the south by residential development and a self-storage facility; to the east by State Street; and to the west by residential development. Base on a review of the plot plan prepared by Sake Engineers, Inc. the proposed improvements will a modular building and showroom facility consisting of multiple building for modular home construction; offices and showrooms; a modular home pre-shipping parking area; vehicle parking; and a water quality basin.

Field Investigation

The logging of the fault trenches (FT-1 and FT-2), which took place periodically on August 23 through September 7, 2019, and was directed by a certified engineering geologists who examined and logged the exposed soil materials. The City of Hemet Planning Engineer (Robert Vestal) was made aware of our trenching activities. Based on phone communication with Mr. Vestal, we communicated the findings of our fault trenching and he indicated that we could submit our report to the city. The approximate locations of the fault trenches are shown on the enclosed Fault Trench Location Map (Plate 1). The logs of the exploratory fault trenches are included on Plates 2 through 6.

Site Geologic Setting

The site is located on an alluvial plain within the San Jacinto Valley, which slopes downward to the east. A modified, prominent northeast facing fault scarp exists within the central portion of the site and can be clearly seen trending in a southeast to northwest direction. The same scarp can be clearly seen to the northwest of the site as well as to the southeast of the site crossing State Street. The site is entirely underlain by recent alluvium. The geology of the general site area is shown on the Site Regional Geology Map, Figure 2.

The active, northwest trending fault passing through the western portion of the site is the Casa Loma fault, a branch of the San Jacinto fault zone (See Figure 3, Site Alquist-Priolo Map). The block of land between the on-site Casa Loma fault and the Claremont fault, approximately 3 miles to the northeast, is a large graben (down-thrown block of land between faults) that has historically undergone subsidence of up to 4 feet in some places. Both the Casa Loma and Claremont faults are part of the San Jacinto fault zone (Sharp, 1975). The graben between these faults is underlain by several thousand feet of alluvial sediments, whereas the alluvial sediments southwest of the Casa Loma fault only continue to depths of approximately 500 feet (Fett, 1968). Igneous, bedrock hills are located southwest of the Casa Loma fault. Metamorphic and igneous rocks, regionally capped by Pleistocene sediments, are located along the northeast side of the Claremont fault.

The San Jacinto fault zone in recent years has demonstrated its active nature and potential for large magnitude earthquakes. Earthquakes attributed to this fault zone were reported in 1899 and 1918, resulting in some destruction to the communities of San Jacinto and Hemet.

Recent studies have indicated that the San Jacinto Valley is also actively subsiding. Three factors acting collectively have probably been responsible for valley subsidence. These include: 1) down-faulting along the bordering fault zones (Lofgren and Rubin, 1975); 2) groundwater withdrawal, and 3) hydrocompaction of low density alluvial deposits (Lofgren, 1976). The subsidence is primarily occurring along the western side of the valley.

Seismic Setting

A northwest trending branch of the San Jacinto fault zone, the Casa Loma fault, passes through the central portion of the site and can be clearly seen trending in a southeast to northwest direction. The same scarp can be clearly seen to the northwest of the site as well as to the southeast of the site crossing State Street. Additional surficial evidence of this fault can be observed in alluvium approximately 3 miles to the southeast (Rasmussen, 1976).

Evidence of fault rupture was observed up to the surface in both fault trenches. Therefore, the fault is considered to be an active fault, having undergone very recent and possibly historic surface rupture.

Numerous other active faults are located within the general region, such as the Elsinore and San Andreas fault zone, but because of their much greater distance from the site, they are not considered significant when compared to the on-site branch of the San Jacinto fault zone.

Casa Loma Fault

Vertical movement along the Casa Loma fault has resulted in a prominent northeast facing fault scarp in the central portion of the site. The scarp has been modified by cultivation/farming and erosion, leaving a broader and less steep scarp than originally existed.

Major movement along the fault occurs along a narrow well defined zone. The strike of the fault measured in the bottom of the trench was approximately the same as the surface trace of the scarp. The attitude of the fault was N38W, dipping 65 degrees to the northeast in Fault Trench 1 and N63W, dipping 60 degrees to the northeast in Fault Trench 2.

The existence of a very prominent fault scarp at one confined location together with the narrow zone of sediment rupture near the surface observed in both on-site trenches indicate fault rupture has occurred in the past over a very narrow zone. Recurring faulting usually occurs along the same plane that underwent previous fault rupture.

The surface locations of the major fault break were mapped. The mapped trend of the fault, as shown on Plate 1 (Fault Trench Location Map) was based on both the trend of the fault in the fault trenches as well as the trend of the fault scarp based on our review of aerial photographs. Human occupancy structures are not recommended across or within the designated fault setback zone as shown on Plate 1, Fault Trench Location Map.

The full length and depth of both trenches was carefully examined for evidence of recent faulting. No other disruptions or suspicious zones were observed, and the remainder of the site is considered to be relatively free of a fault rupture hazard.

Review of Stereo Pair Aerial Photos

In order to identify possible unmapped faults, a photo-lineament analysis was performed in the area of the site. Stereo pair aerial photos were reviewed for the subject site and general surrounding area. The aerial photos were obtained from County of Riverside Flood Control and Water Conservation District and included the following years: 1962, 1974, 1980, 1990, 2000 and 2010. A detailed list of the aerial photos (date, photo id and approximate scale) are presented in Appendix A.

Lineaments were classified according to their development as strong, moderate or weak. A strong lineament is a well-defined feature that can be continuously traced several hundred feet to a few thousand feet. A moderate lineament is less well defined, somewhat discontinuous, and can be traced for only a few hundred feet. A weak lineament is discontinuous, poorly defined, and can be traced for a few hundred feet or less. Each lineament within the A-P and County of Riverside Zones were field checked during our reconnaissance mapping to evaluate possible origin. All of the lineaments, with the exception of the prominent scarp in the central portion of the site, were classified as weak. The lineaments were located to the southwest of the prominent scarp in the central portion of the site. These lineaments trended northwest-southeast. Review and exploratory trenching for fault related features revealed no evidence for faulting associated with these weak lineaments. The lineaments are likely related to the previous farming and cultivation activities including concrete pipes and leach lines.

GEOLOGICAL AND SOIL UNITS

General

Geologic and soil units identified within the site and fault trench excavated on subject property consisted of topsoil, undocumented fill, colluvium, and quaternary-age alluvium. The generalized descriptions of these site materials provided below are based upon conditions exposed in the fault trenches excavated for this study.

Topsoil (map symbol, Qs)

The site is covered with a thin layer of topsoil. The topsoil consists of dark grayish brown silty sand which is highly disturbed with organics.

Undocumented Fill

Undocumented fill consisting of silty sand was encountered at various locations within the fault trenches. The undocumented fill was located within the upper 1 to 3 feet and was generally associated with existing irrigation lines and dirt roads.

Colluvium (map symbol, Qc)

Colluvium was encountered on the east side of the fault to the total depth of the trenches. The colluvium consisted of brown silty sand which was very porous.

Alluvium (map symbol, Qal)

Alluvium was encountered on the west side of the fault to the total depth of the trenches. The alluvium consisted of layers of fine to coarse grained white sand; dark gray silty clay; light brown poorly cemented sand; and brown silty clay.

CONCLUSIONS

The northwest trending, active Casa Loma fault passes through the central portion of the site and future ground rupture from faulting should be expected along this fault zone. Fault rupture is not expected through any of the remaining portion of the site as no evidence of faulting was noted during the aerial photo analysis or fault trenching.

RECOMMENDATIONS

Structures for human occupancy should not be placed in or across the designated fault setback zone shown on the enclosed fault trench location map (Plate 1).

Shut-off valves are recommended for any wet utilities (sewer and water) crossing the designated fault setback zone. The shut-off valves should be placed on either side of the zone.

CLOSURE

Our findings were obtained in accordance with generally accepted current professional principles and local practice in geotechnical engineering. We make no other warranty, either express or implied

This report is subject to review by the controlling authorities for the project. We thank you for the opportunity of providing our services to you on this project.

REGISTERED PROFESSIONAL GEOLOGIST
EDWARD LOUIS BURROWS
No. 1750
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

PROFESSIONAL GEOLOGIST
FRED AFLAKIAN
No. 2051
Certified Engineering Geologist
STATE OF CALIFORNIA

Edward L. Burrows, MS, PG, CEG 1750
Engineering Geologist

Fred Aflakian, PG, CEG 2051
Engineering Geologist

Attachments:

Figure 1 – Site Location Map
Figure 2 – Regional Geology Map
Figure 3 – Site Alquist-Priolo Map
Plate 1 – Fault Trench Location Map
Plates 2 through 6 – Fault Trench Logs
Appendix A – References and List of Stereo Pair Aerial Photos

APPENDIX A
REFERENCES

CGS, State of California Earthquake Fault Zones of Required Investigation, Devore Quadrangle, dated June 1, 1995

Fett, J. D., 1968, Geophysical Investigation of the San Jacinto Valley, Riverside County, California, Univ. Of California Masters Thesis

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Sake Engineering Inc., 2019, City of Hemet Plot Plan, Lot 5 and a Portion of Lot 4 of Mesa Terrace Tract, in the City of Hemet, County of Riverside, State of California, dated August 2019

STEREO PAIR AERIAL PHOTOS

Date	**Frame No.**	**Scale (Approximate)**
3/28/2010	10-38 & 10-39	1 in. = 1,600 ft.
3/18/2000	10-37 & 10-38	1 in. = 1,600 ft.
01/9/1990	10-42 & 10-43	1 in. = 2,000 ft.
04/10/1980	487 & 488	1 in. = 2,000 ft.
06/20/1974	527 & 528	1 in. = 2,000 ft.
01/29/1962	2-235 & 2-236	1 in. = 2,000 ft.

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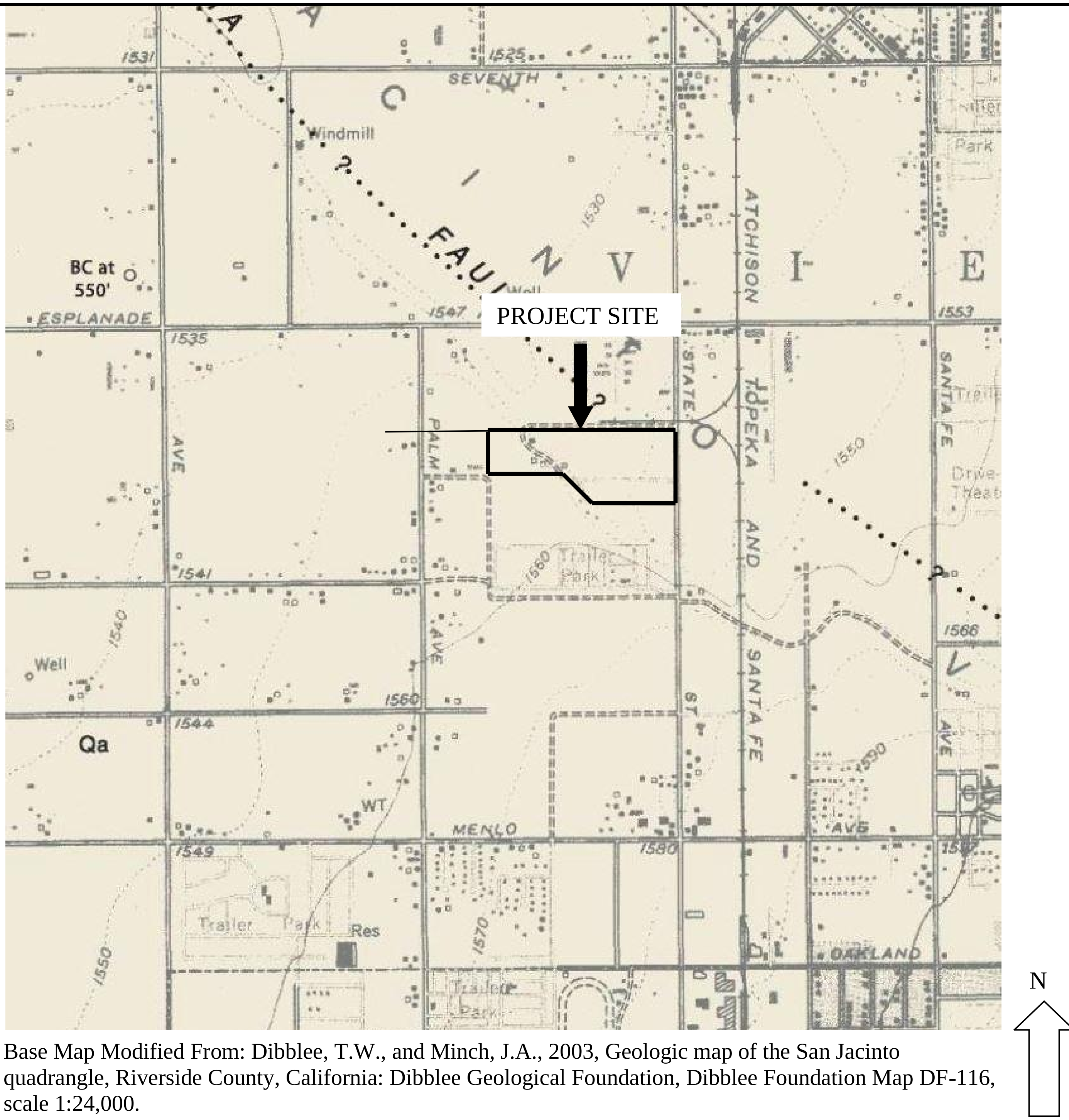
SITE LOCATION MAP

Project No:
19-805 Fault

S2A Modular Factory and Showroom, City of Hemet, California

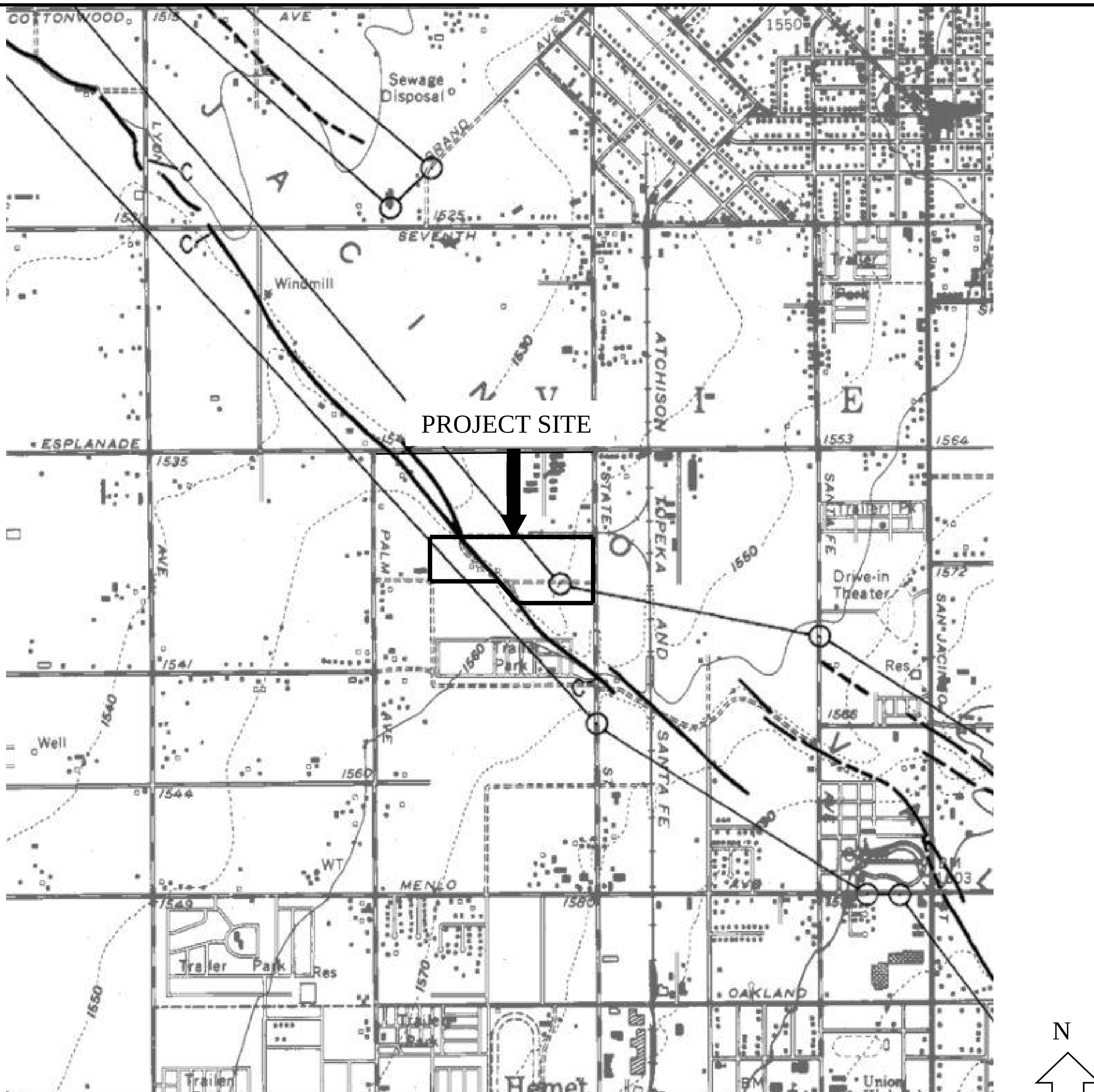
FRED AFLAKIAN, PG, CEG

FIGURE **1**



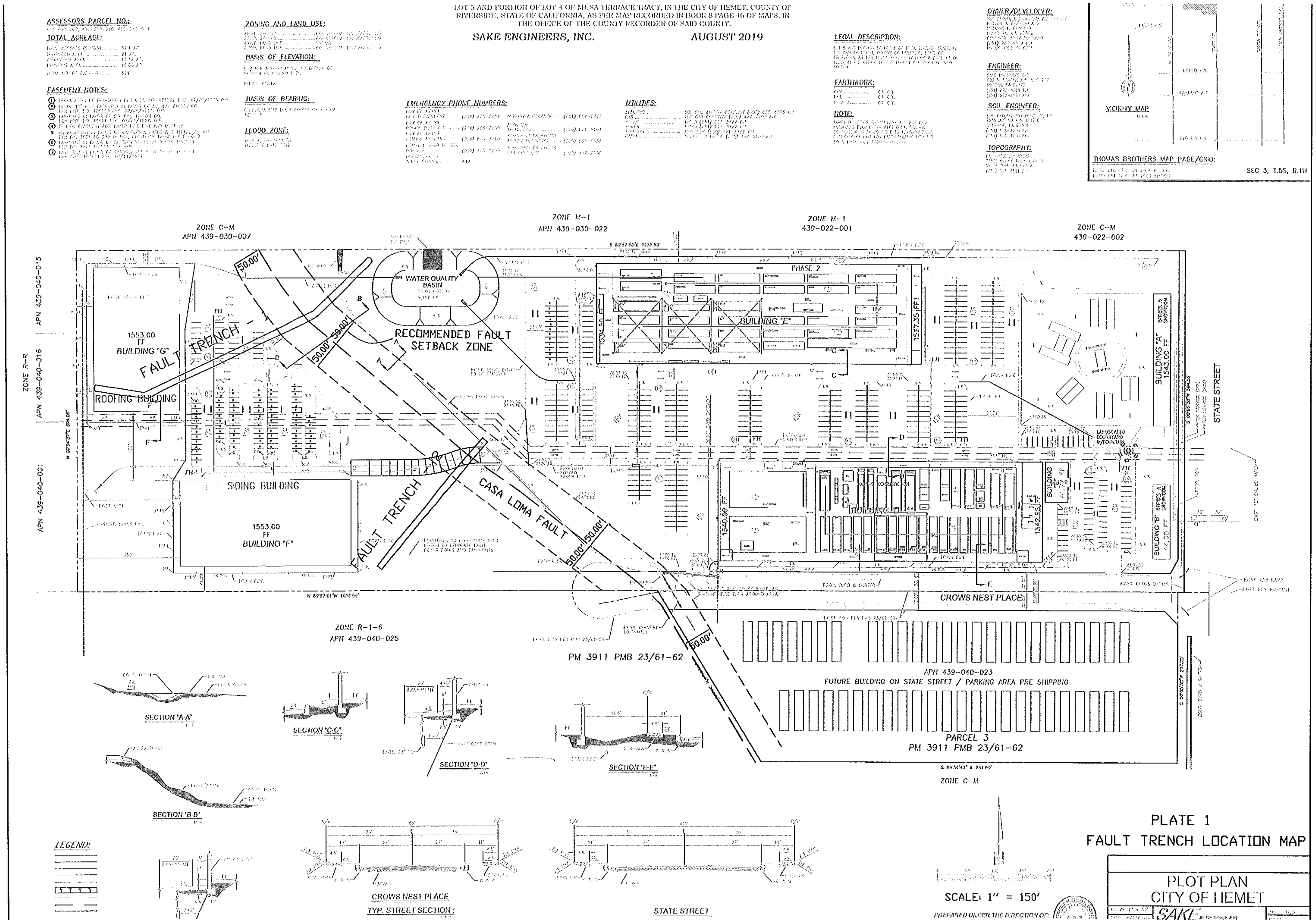
Base Map Modified From: Dibblee, T.W., and Minch, J.A., 2003, Geologic map of the San Jacinto quadrangle, Riverside County, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-116, scale 1:24,000.

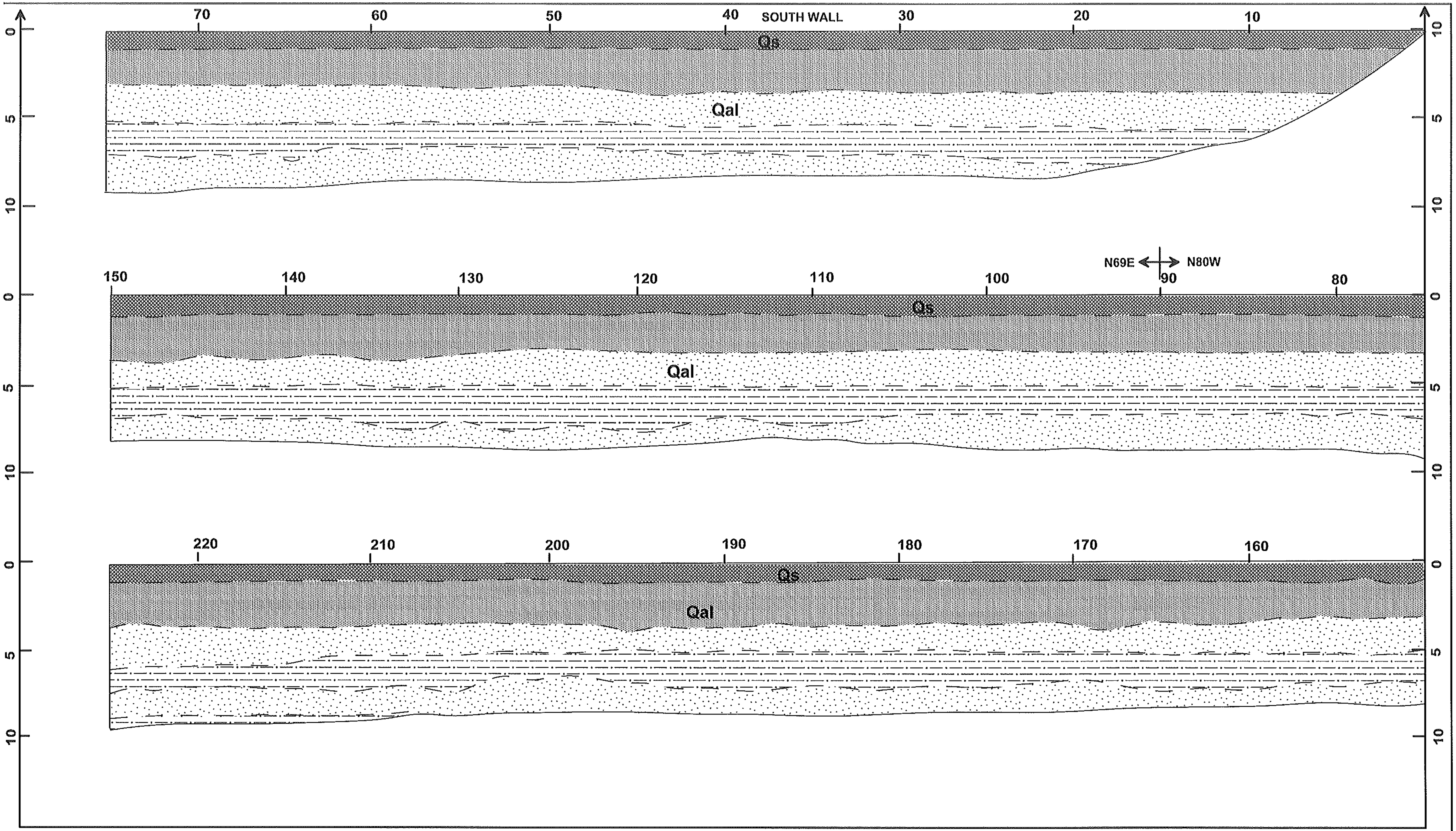
SITE REGIONAL GEOLOGY MAP	**Project No: 19-805 Fault**
S2A Modular Factory and Showroom, City of Hemet, California	
FRED AFLAKIAN, PG, CEG	**FIGURE** 2



Base Map Modified From: California Division of Mines and Geology, State of California Special Studies Zone, San Jacinto Quadrangle, January 1, 1980

SITE ALQUIST-PRIOLO MAP	**Project No: 19-805 Fault**
S2A Modular Factory and Showroom, City of Hemet, California	
FRED AFLAKIAN, PG, CEG	**FIGURE** 3

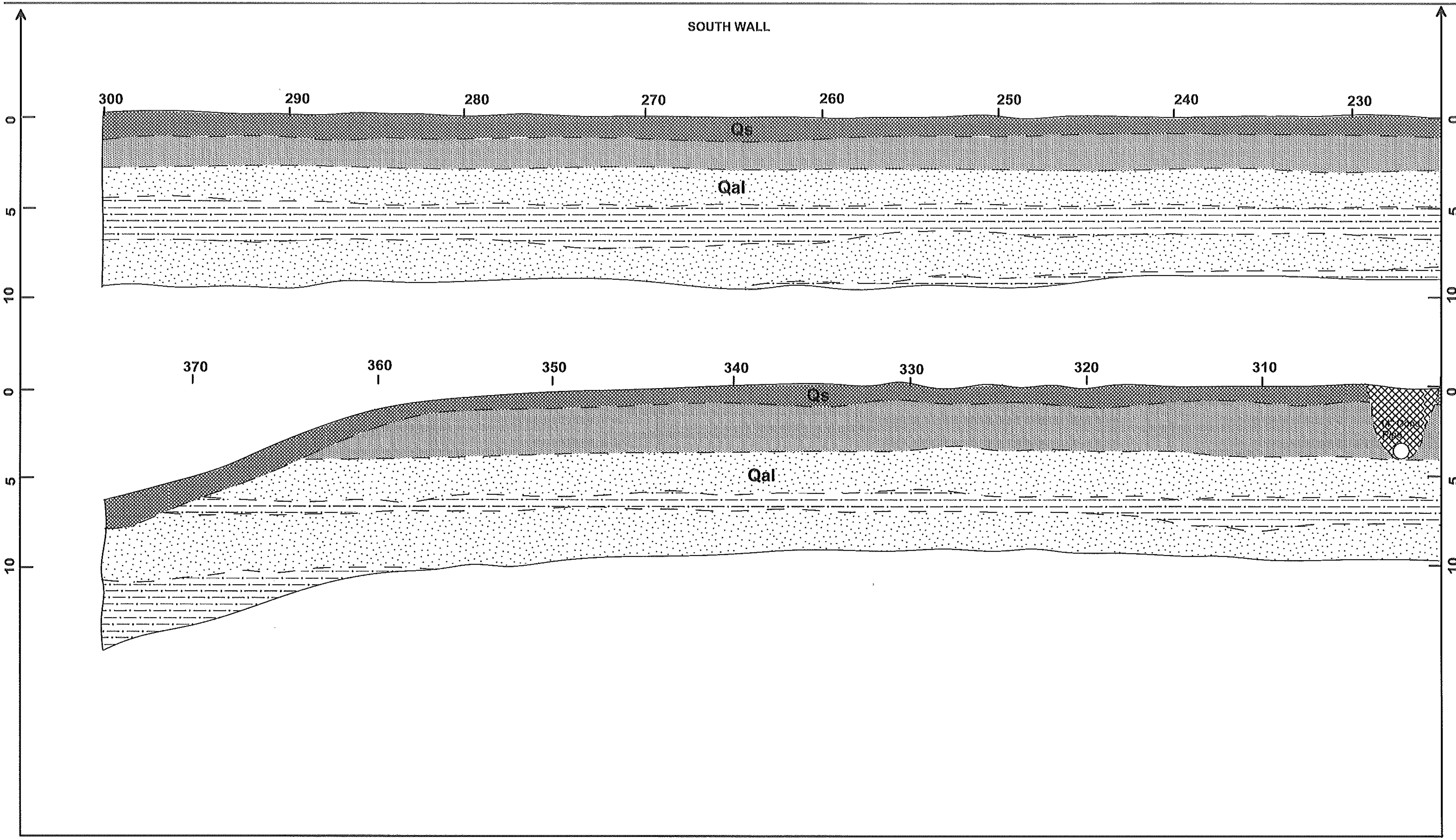

LOT 5 AND PORTION OF LOT 4 OF MESA TERRACE TRACT, IN THE CITY OF HEMET, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 8 PAGE 46 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.
SAKE ENGINEERS, INC.
AUGUST 2019
ASSESSORS PARCEL NO.:
TOTAL ACREAGE:
EASEMENT NOTES:
ZONING AND LAND USE:
BASIS OF ELEVATION:
BASIS OF BEARING:
FLOOD ZONE:
EMERGENCY PHONE NUMBERS:
UTILITIES:
LEGAL DESCRIPTION:
EARTHWORK:
NOTE:
OWNER/DEVELOPER:
ENGINEER:
SOIL ENGINEER:
TOPOGRAPHY:
VICINITY MAP
THOMAS BROTHERS MAP PAGE/GRID:
SEC 3, T.5S, R.1W
ZONE C-M
APN 439-030-007
ZONE M-1
APN 439-030-022
ZONE M-1
439-022-001
ZONE C-M
439-022-002
APN 439-040-015
ZONE R-R
APN 439-040-016
APN 439-040-001
WATER QUALITY BASIN
RECOMMENDED FAULT SETBACK ZONE
FAULT TRENCH
50.00'
PHASE 2
BUILDING "E"
1537.35 FF
1534.50
1553.00 FF
BUILDING "G"
ROOFING BUILDING
BUILDING "A"
1543.00 FF
OFFICES & SHOWROOM
STATE STREET
SIDING BUILDING
1553.00 FF
BUILDING "F"
FAULT TRENCH
CASA LOMA FAULT
BUILDING "D"
1540.00 FF
1542.85 FF
BUILDING "C"
BUILDING "B"
CROWS NEST PLACE
ZONE R-1-6
APN 439-040-025
PM 3911 PMB 23/61-62
APN 439-040-023
FUTURE BUILDING ON STATE STREET / PARKING AREA PRE SHIPPING
PARCEL 3
PM 3911 PMB 23/61-62
ZONE C-M
SECTION "A-A"
SECTION "C-C"
SECTION "D-D"
SECTION "E-E"
SECTION "B-B"
LEGEND:
CROWS NEST PLACE
TYP. STREET SECTION
STATE STREET
PLATE 1
FAULT TRENCH LOCATION MAP
SCALE: 1" = 150'
PLOT PLAN
CITY OF HEMET
PREPARED UNDER THE DIRECTION OF:
SAKE



Project No.: 19-805FAULT
Project Name: S2A Modular Factory and Showroom

FAULT TRENCH - 1
APNs 439-030-009, 010 AND 439-040-023, HEMET, CALIFORNIA

PLATE 2
FRED AFLAKIAN, PG, CEG



Project No.: 19-805FAULT
Project Name: S2A Modular Factory and Showroom

FAULT TRENCH - 1
APNs 439-030-009, 010 AND 439-040-023, HEMET, CALIFORNIA

PLATE 3
FRED AFLAKIAN, PG, CEG

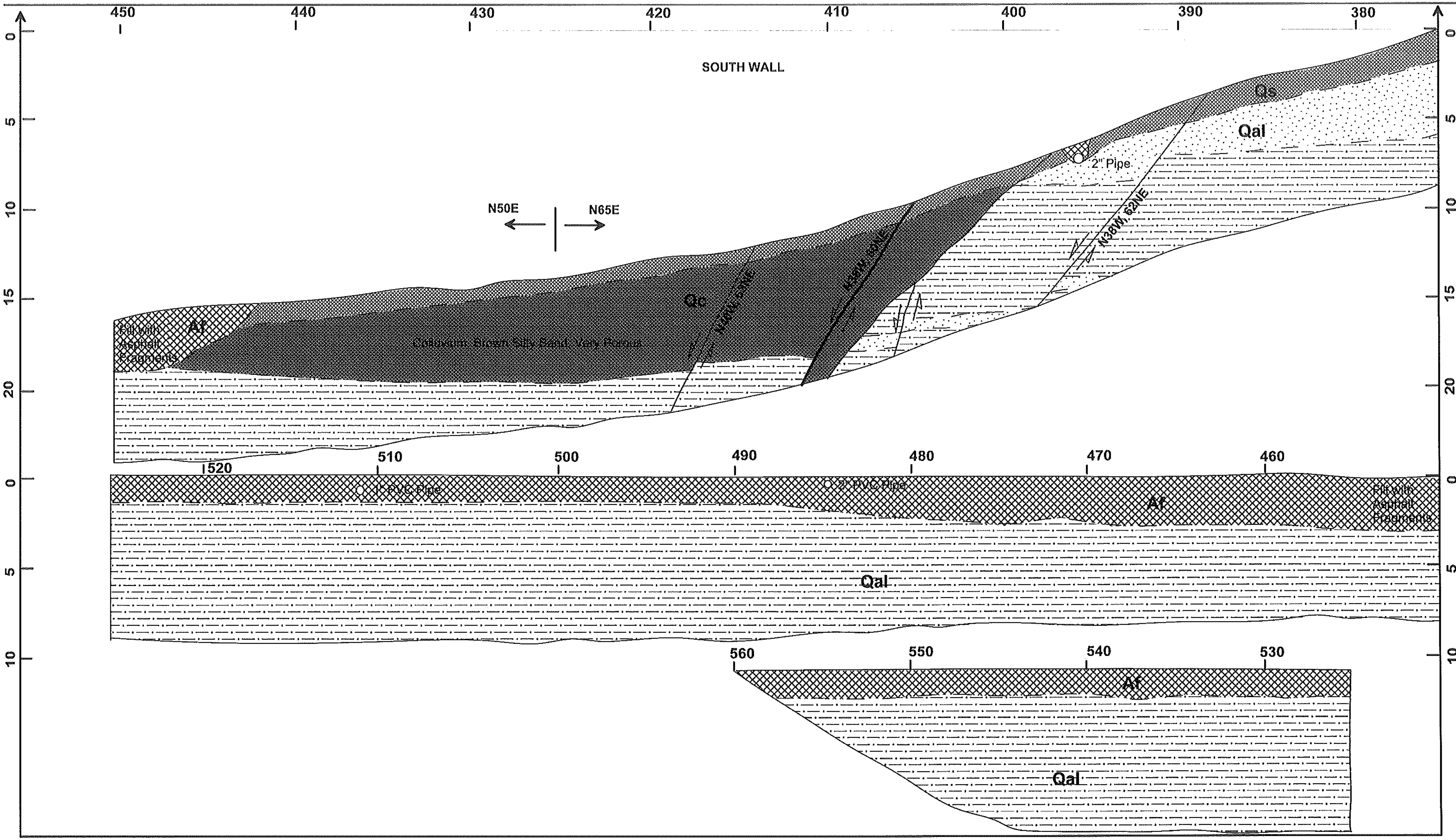


PLATE 4

Project No.: 19-805FAULT
Project Name: S2A Modular Factory and Showroom

FAULT TRENCH - 1
APNs 439-030-009, 010 AND 439-040-023, HEMET, CALIFORNIA

FRED AFLAKIAN, PG, CEG

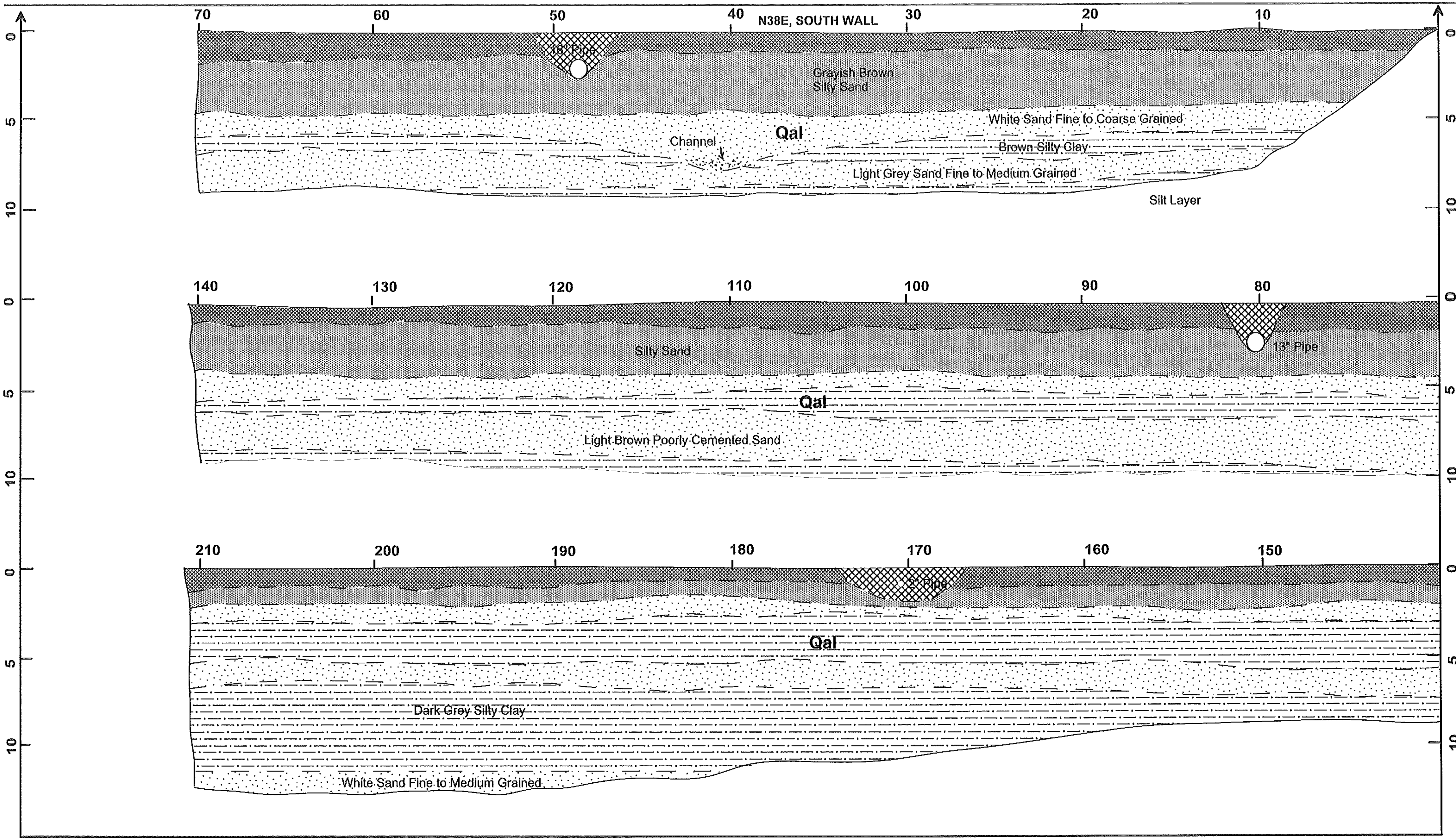
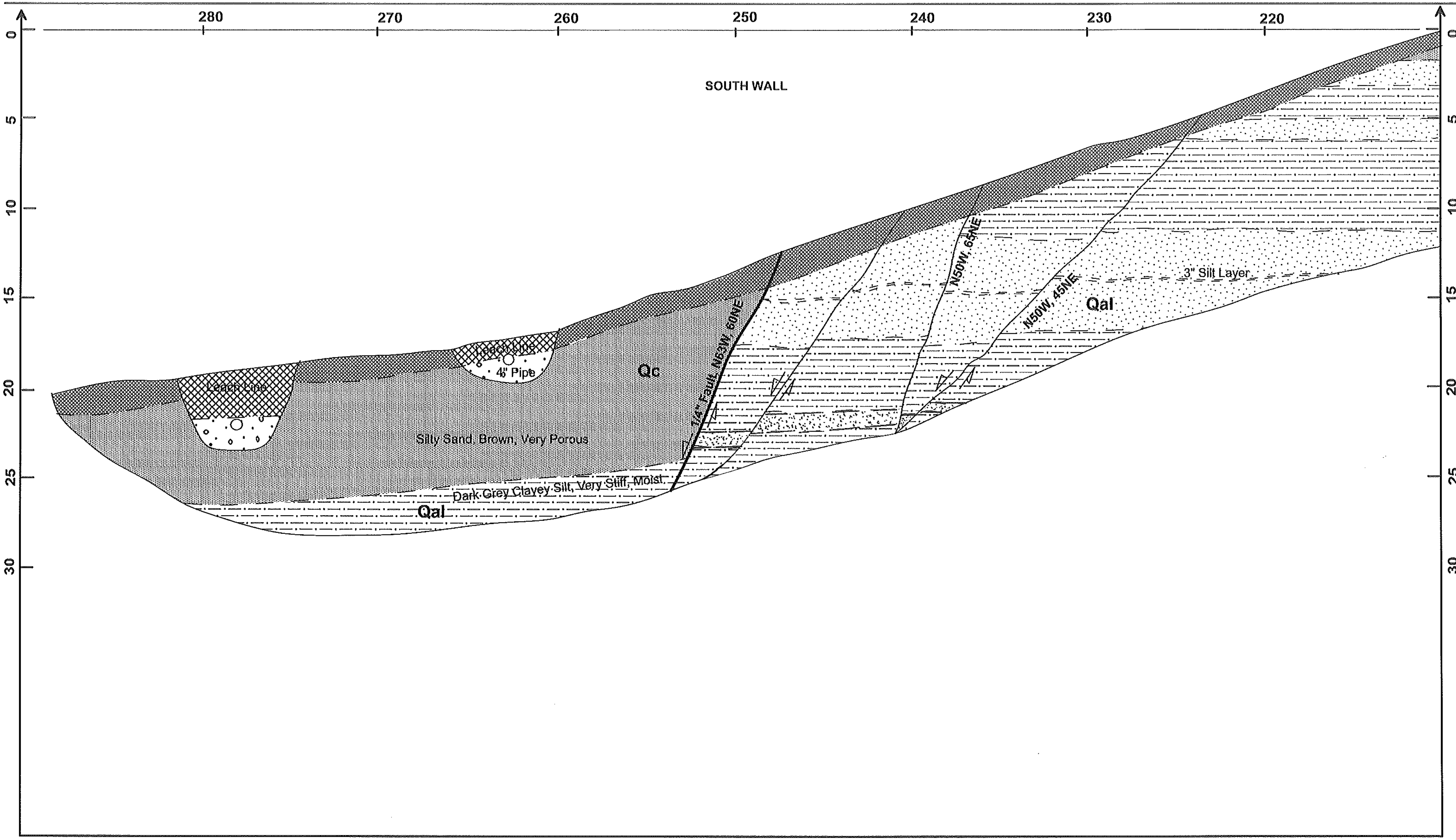


PLATE 5

Project No.: 19-805FAULT
Project Name: S2A Modular Factory and Showroom

FAULT TRENCH - 2
APNs 439-030-009, 010 AND 439-040-023, HEMET, CALIFORNIA

FRED AFLAKIAN, PG, CEG



Project No.: 19-805FAULT
Project Name: S2A Modular Factory and Showroom

FAULT TRENCH - 2
APNs 439-030-009, 010 AND 439-040-023, HEMET, CALIFORNIA

PLATE 6
FRED AFLAKIAN, PG, CEG

GEO 00080

TECHNICAL REPORTS

OF PAGES: 13

FAULT HAZARD REPORT

for

A PORTION OF LOTS 104 and 105, OF THE ESTUDILLO LAND AND WATER COMPANY ADDITION AS SHOWN IN M.B. 9/410 RECORDS OF SAN DIEGO COUNTY, LYING WITHIN THE RANCHO SAN JACINTO VIEJO.

May 17, 1977

Job. No. 27-77-5

Lewis S. Lohr
40811 Le Grande Dr.
Hemet, Calif. 92343
714-658-1048

RECEIVED
MAY 31 1977
RIVERSIDE COUNTY
PLANNING COMMISSION

FOR: Mr. Monard N. Miller
P. O. Box 68
Hemet, California
92343

Job. No. 27-77-5

FAULT HAZARD REPORT

for

A PORTION OF LOTS 104 AND 105, OF THE ESTUDILLO LAND AND WATER COMPANY ADDITION AS SHOWN IN M.B. 9/410 RECORDS OF SAN DIEGO COUNTY, LYING WITHIN THE RANCHO SAN JACINTO VIEJO.

INTRODUCTION

The Alquist-Priolo Geologic Hazard Zones Act of December 1972 authorized the State Geologist to delineate "Special Studies Zones" along all recently and potentially active traces of the major fault systems within the State of California.

A Fault Hazard Report is presently required to be submitted to the Riverside County Planning Department and/or the Building and Safety Department, for any land lying within a "Special Studies Zone" in Riverside County, if such land is proposed for land division or structures for human habitation. An exception to these requirements is the construction of a single-family, wood-frame residence on an already subdivided lot lying within a "Special Studies Zone." Such construction has been exempted by the passage of Senate Bill 5 (May 1975) which also changes the name of the act to the "Alquist-Priolo Special Studies Zone Act." "Light Industrial structures have been proposed for construction on the property for which this report and investigation were made. This property is situated in the "Special Studies Zone" which contains the Casa Loma Fault.

A review of pertinent geologic literature was made to aid in the field location of any faults which might cross the property in question. Aerial photographs were carefully examined to aid in the investigation of the Casa Loma Fault and it's geomorphic expression across the subject property. Applicable seismic literature was received with respect to previous seismic activity, which has occurred in the San Jacinto Valley and the surrounding vicinity. (reviewed ?

A field geology investigation was made of the subject property which included both a surface investigation and trench excavation and examination.

LOCATION OF PROPERTY

The property studied for this report is located on the southerly side of Esplanade Avenue between Lyon Avenue on the west and State Street on the east, northerly of the City of Hemet, in Riverside County, California. It is a portion of Lots 104 and 105 of the Estudillo Land and Water Company Addition as shown in M.B. 9/410, Records of San Diego County (see figures 1 and 2). The subject property is further described as lying within the Rancho San Jacinto Viejo. The total property is approximately 12 acres net.

GEOLOGIC SETTING

The property studied in this report is crossed by the Casa Loma Fault which has as its geomorphic expression an apparent scarp with a height that varies from 16 to 20 feet (4.9 to 6.1 M.). At the foot of, and along the face of this scarp are numerous fault related features such as sumps, small scarps, collapsed fissures, partially filled "blow holes", and cracks and disturbed ground. All of these features were in an area which was later shown by the subsurface investigation to be under the displacement influence of the Casa Loma Fault.

The property has been bisected by fault displacement on the Casa Loma Fault into essentially two areas. One, the upper or "plateau" area which comprises approximately 1.30 acres and a lower area which contains approximately 7.5 acres. Both of these areas do not appear to be affected by displacement on a fault for the last several thousand years and drain generally in a northwesterly direction.

The entire subject property is situated upon Quaternary Alluvium which is typically sandy silts, silty sands, unconsolidated fine to coarse sands, silts, clay-silts, and various mixtures of these soil types. For the most part, the thickness of the various soil horizons varies from a fraction of an inch to several feet. Trenching exposed these alluvial sediments which have an unknown age but are estimated to be several thousand years old.

The depth to the ground water table in the vicinity of the subject property is unknown, however, it is probably greater than 200 feet (61. M.).

FAULTS

The property studied in this report is entirely within a "Special Studies Zone" which contains the Casa Loma Fault and related adjacent faults. This "Zone" is shown on the State of California's Division of Mines and Geology "Special Studies Zones" map, (San Jacinto Quadrangle, Scale 1:24,000). The Casa Loma Fault is shown as both inferred in part and as acurately located and crosses the subject property in a northwesterly-southeasterly direction (See Figure 2 and Plate II). The trench investigation showed the "Special Studies Zone" map location for these faults to be correct. → The 2 faults appear to be located approximately 100 feet southerly of the map location.

The subject property lies within the San Jacinto Fault Zone, which contains the San Jacinto Fault, the Casa Loma Fault, the Park Hill Fault (?), the Bautista Creek Fault and several other related unnamed faults. The Casa Loma Fault, in various locations within the San Jacinto Valley, is geomorphically expressed by swales and depressions, low to moderate height scarps and apparent scarps, and linear gullies (Miscellaneous Geologic Investigations, Map I-675-1972). In the vicinity of the subject property the trace of the Casa Loma Fault is geomorphically expressed by an apparent scarp, sumps, filled and unfilled cracks, small recent scarps, and filled "blow" holes.

Some of the faults, within the San Jacinto Fault Zone, exhibit predominantly strike slip movement, with right lateral displacement being the relative direction of movement. However there has been over 14,000 feet of vertical movement along the San Jacinto Fault proper, and the Casa Loma Fault with evidence that the northeasterly block has been relatively upthrown with respect to the southwesterly block. It is to be noted, that between the San Jacinto and the Casa Loma Faults, a grabin exists with reported sediment thicknesses of up to 10,000 feet. The relative movement on the Casa Loma Fault is thought to be normal with the northeasterly block down-dropped, however, there also is an excellant possibility that this fault exhibits right-lateral, strike slip movement.

TRENCH EXAMINATION

Three trenches were excavated on the subject property (See Plate II for trench locations). These trenches in conjunction with trenches excavated and investigated for County Geologic Reports No.'s 36 and 53 were located so as to determine whether displacement on a fault had or had not occurred across the property studied. The primary trench was excavated from the southwest corner of the property northeasterly on an approximate bearing of N. 31° E.. length of approximately 570 feet (173.7 M.). This trench (See Plate I) shows that the "plateau" area is stable with no evidence of displacement on a fault. From station 2+74 to station 3+30, occur a series of faults with displacement varying between 0.5 and 7.0 feet (0.15 to 2.1 M.). The total displacement on this series of faults is on the order of 23.5 feet (7.2 M.). A small reverse fault was seen at station 3+66 (displacement approximately 6" (15.2 M.).

From station 4+~~70~~ 07 to station 4+30 several faults were observed. The most prominent of which occurred at station 4+15. The amount of displacement on this fault is unknown. From station 4+30 to 5+70 (the end of the trench) no displacement on a fault was observed).

Two other short trenches were excavated to properly locate the most northeasterly limits of active faulting. These trenches designated TRENCH "A" and TRENCH "B" (See Plate II for location) both crossed the most northeasterly fault area as exposed in the primary trench of station 4+30. Trench "A" exhibited numerous stepped normal faults (total displacement unknown) from station 0+00 to approximately station 0+40 with a stable area, uneffected by fault displacement from station 0+40 to 0+82. Trench "B" exposed numerous small, stepped normal faults, and even more numerous fractures and also a prominant fault (with gouge) from station 0+34 to approximately 0+40. Evidence of drag on adjacent sediments by displacement on this normal fault, (Stations 0+18 to 0+34) was observed. The total displacement on faults exposed by this trench is unknown. The sediments examined from station 0+40 to 1+05 showed no evidence of having been displaced by faulting.

All of these trenches were logged and their northerly or northwesterly wall is shown on Plate I or II.

The alluvial materials exposed in the trench in the "plateau" area generally included silty sand, sandy silts and silt and clay-silt layers in the upper 6 feet (1.8 M.) and fine to coarse sands in the lower 4 feet (1.2 M.). In the lower, stable outwash area the alluvial materials logged in the trenches generally included silty sand and top soil over dark brown to black-brown carbonaceous silt or clay silt. Beneath this dark soil are various layers of silty sand, silt and clay-silt.

SEISMIC HISTORY

During the last 85 years, several earthquakes have been recorded which have had magnitudes greater than 6.0 on the Richter Scale. These earthquakes have had epicenters within a 55 mile (88.5 Km.) radius around the subject property. The following is a list of these earthquakes giving their date of occurrence, location and magnitude if known. (Crustal Strain and Fault Movement Investigation, Bulletin, No. 116-2 California Department of Water Resources, 1964 and Seismicity of Southern California Region, 1 January 1932 to 31 December 1972, Seismological Laboratory, California Institute of Technology (1973).

DATE	LOCATION	MAGNITUDE*
July 22, 1899	Near Cajon Pass	6.0+
December 25, 1899	Near San Jacinto	6.5 Perhaps 7.0?
April 21, 1918	In San Jacinto Valley	6.8
July 22, 1923	South of Loma Linda	6.3
March 25, 1937	Southeasterly of Anza	6.0
December 4, 1948	Easterly of Desert Hot Springs	6.5 (On San Andreas Fault)
March 19, 1954	Easterly of the Borrego Valley	6.2

*Richter Scale

Two of the above listed earthquakes, with magnitudes of 6.5 (perhaps 7.0) and 6.8 occurred within a 10 mile (16 Km.) radius of the property studied and were located within the San Jacinto Valley. "The earthquake of December 25, 1899 near the town of San Jacinto did a great deal of damage to structures and killed several people. The earthquake of April 21, 1918 (magnitude 6.8) which occurred in the San Jacinto Valley did extensive damage to structures situated in the towns of San Jacinto and Hemet, and also to farm and ranch structures throughout the San Jacinto Valley.

The high seismicity of the San Jacinto Valley is evidenced by the past record of earthquakes along the San Jacinto Fault Zone. There is a district probability that earthquakes with a magnitude of 6.0 or greater will occur within the San Jacinto Valley in the future. The maximum probable earthquake which may occur within the San Jacinto Valley or the surrounding vicinity during the next 100 years may have a magnitude as high as 7.0 on the Richter Scale. It is also quite likely that numerous structures within the valley will be extensively damaged should such an earthquake occur. The design of structures for human habitation or commerical purposes, which are to be constructed within the San Jacinto Valley, should take into consideration both the probability of such a seismic event occuring, and also the seismic risk entailed if such an event should occur.

The maximum credible earthquake which might occur within the San Jacinto Valley or the surrounding vicinity (up to 100 kilometer radius from the subject property) would probably be of a magnitude of 7.5 on the Richter Scale (Roger W. Greensfelder, M.D. 23, California Division of Mines and Geology, Revised 1974). The maximum credible earthquake is by present definition, the maximum earthquake that appears to be reasonably capable of occuring under the conditions of the presently known "geological framework".

SEISMIC RISK

The primary effects of earthquakes are surface displacement ground rupture, changes of elevation of land due to subsidence and/or uplift, and strong ground vibrations. The secondary effects are ground fissuring, lurching, landsliding, and soil liquefaction and flooding due to dam break.

The property studied in this report lies entirely within the "Special Studies Zone", which contains the Casa Loma Fault and adjacent, associated faults. Evidence of fault displacement was found within the trenches excavated, (See Plates I and II), so it is considered likely that the primary earthquake effect of surface displacement on a fault or ground rupture could occur across the subject property. All structures for human habitation should be set back a minimum of 50 feet from either side of the fault zone as exposed in the trenches. (See setback lines in Plate II)

Proper consideration of the primary seismic risk of strong ground vibration should be made during the design of all structures proposed for construction on the property studied.

It is unlikely that earthquakes which may occur along the San Jacinto Fault Zone in the future will have a magnitude greater than 7.0 on the Richter Scale. This figure is based on both the recorded magnitude of previous seismic events along this fault zone, and on a theory that the maximum earthquake magnitude possible is limited by the product of the maximum possible fault rupture length and the maximum strain possible without rupture. The maximum ground acceleration to be expected from the maximum probable earthquake along the San Jacinto Fault Zone, in the vicinity of the subject property, would be approximately 0.46 g. Industrial structures for this property should be planned in terms of design, for at least a 7.0 Richter magnitude quake, a duration of 20 seconds, and a Mercalli Scale of IX.

It is possible that the secondary earthquake affects such as ground fissuring and cracking could occur on the subject property in conjunction with a seismic event. It is my opinion, that the recommended 50 foot set back from the fault lines will be sufficient to also protect structures from the effects of ground fissuring and cracking.

Lurching is related to the displacement of the tops of cliffs, gullies, and other steep embankments outward and downward by a combination of gravity and strong earthquake induced ground vibrations. It is my opinion that the northeasterly facing apparent scarp slope may be susceptible to the seismic risk of lurching. Since this scarp slope lies entirely within the suggested setback area where construction is not recommended due to other seismic risk factors the risk caused by lurching would be minimized. Over the remainder of the property, lurching is not a seismic risk factor to be considered.

Data with regard to the precise depth to the water table beneath the subject property is not available, but this author is of the opinion that the depth is such (200 feet 61M.), that soils liquefaction is unlikely to cccur within or adjacent to the property in question. Earthquake induced landslides are unlikely to have an effect on the property, and are not considered to be a significant hazard to it.

If the Little Lake Dam should fail due to a seismic event, a portion of the property would be in the inundation pathway. Since this dam only impounds approximately a maximum of 90 acre feet of water, damages associated with such inundation should be minor.

SUMMARY

The fault hazard investigation made by me indicates that the Casa Loma Fault and associated faults diagonally cross the southwesterly corner of the property studied. The remainder of the property south westerly and northeasterly of the located fault zone apparently has not been displaced by faulting for the last several thousand years as shown by both geomorphic and trench evidence.

There is a good possibility that the primary earthquake effects of surface displacement on a fault or ground rupture could occur across the property as shown on the location map on Plate II along with the secondary effects of ground fissuring and cracking.

The secondary earthquake effect of lurching could also possibly occur along the northeasterly facing apparent scarp of the Casa Loma Fault. The potential seismic hazard is mitigated by the fact that the area which could be subject to lurching lies entirely within the boundaries of the area suggested for the exclusion of structures for human habitation.

The secondary earthquake effects of landsliding, liquefaction and the possibility of failure of the Little Lake Dam are not considered to be a significant hazard to the property.

The past record of earthquakes along the San Jacinto Fault Zone, indicates the high seismicity of the San Jacinto Valley. There is a distinct probability that earthquakes with a magnitude of 6.0 or greater will occur within the San Jacinto Valley in the future (Maximum probable earthquake 7.0 magnitude). There is a possibility that an earthquake with a magnitude of 7.5 on the Richter Scale (Maximum credible) could occur along the San Jacinto Fault Zone.

RECOMMENDATIONS

No structures for human habitation should be built between the building setback lines as shown on the location map (Plate II).

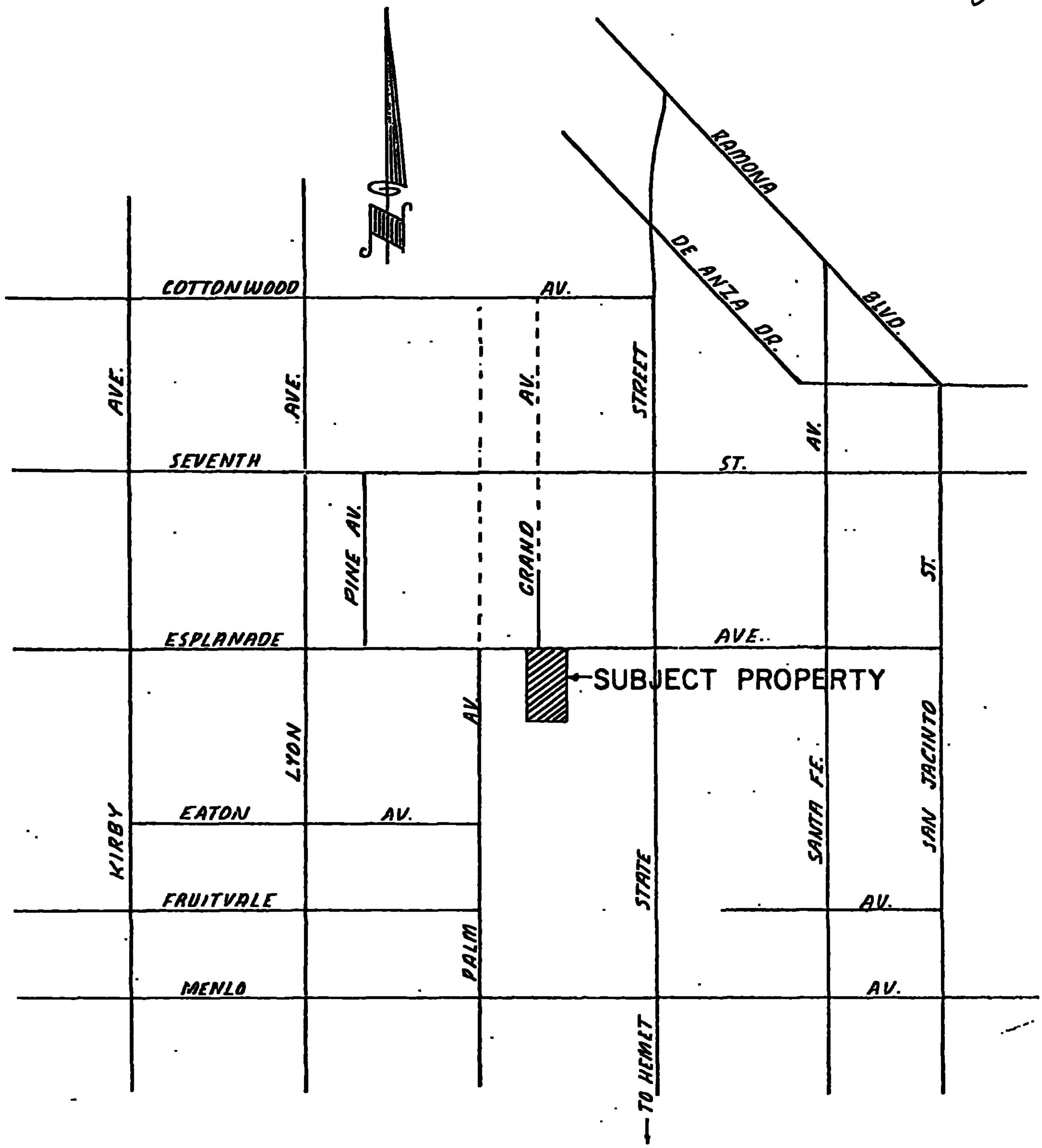
The design of all industrial structures to be constructed on the subject property should take into consideration both seismic loading and all the possible effects of earthquakes with a potential magnitude of up to 7.0 on the Ricter Scale and with ground accelerations based upon a distance to the epicenter of the causative fault of approximately 100 feet (30.5 M.). These structures should be designed to withstand this 7.0 magnitude quake for a duration of 20 seconds, with ground acceleration of up to 0.46 g. The probable maximum intensity of the seismic event to affect the subject property would be approximately IX, as measured on the Modified Mercalli Scale (1931).

REGISTERED GEOLOGIST
LEWIS S. LOHR
No. 2666
STATE OF CALIFORNIA

Respectfully submitted,

Lewis S. Lohr

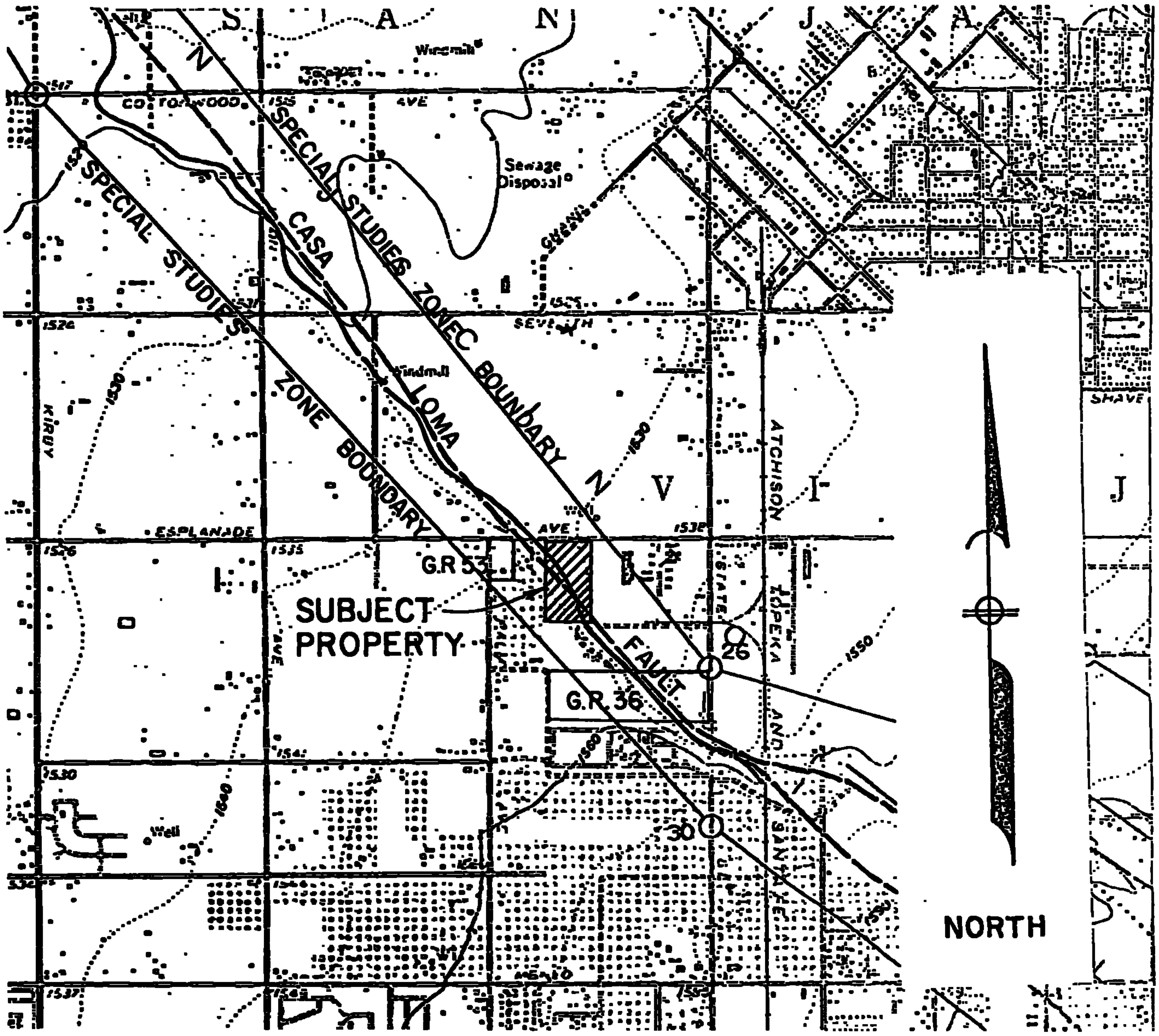
Lewis S. Lohr
Registered Geologist



VICINITY MAP

NO SCALE

FIGURE 1



PORTION OF
SPECIAL STUDIES ZONES MAP

SAN JACINTO QUADRANGLE

SCALE: 1" = 2,000'

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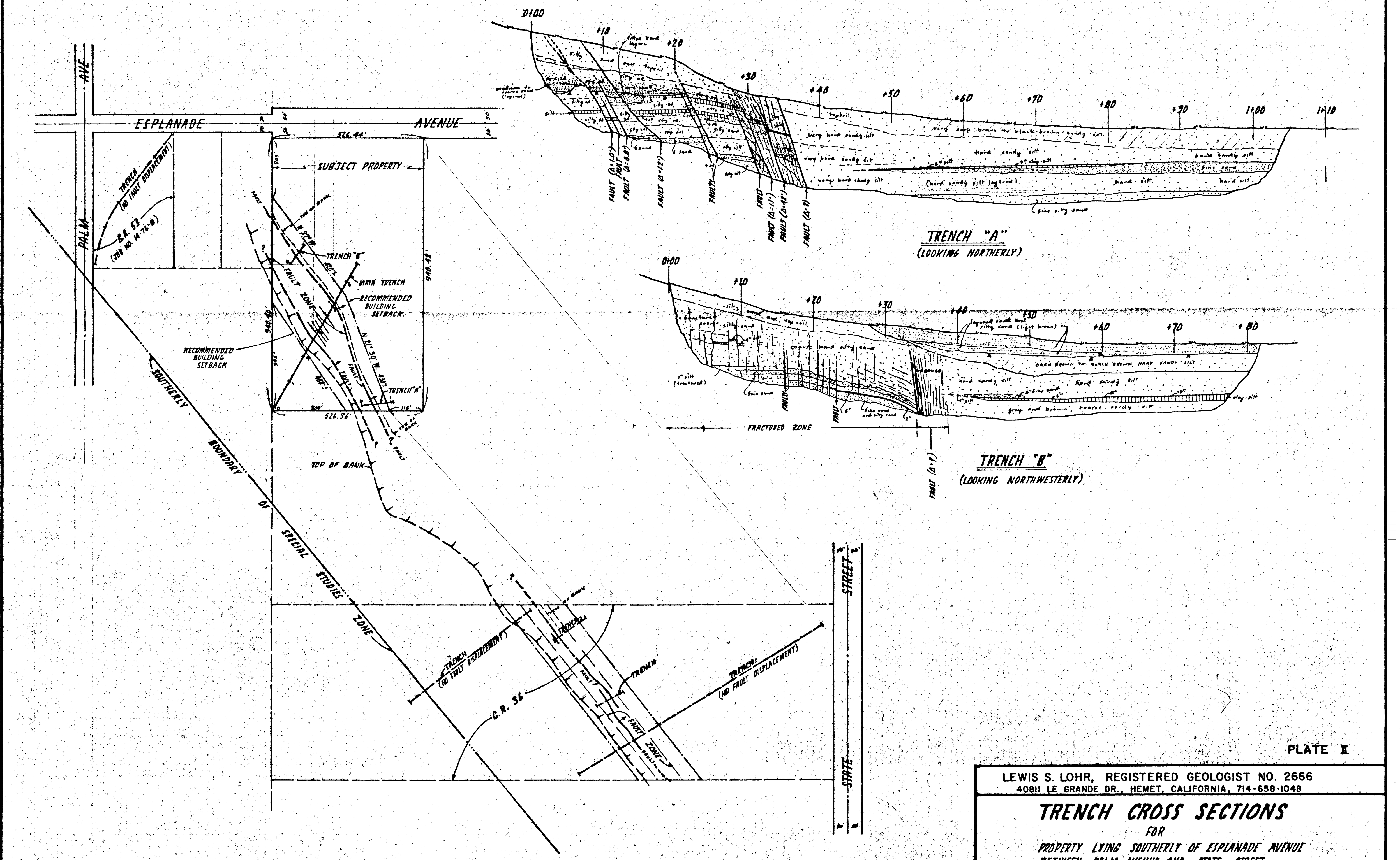


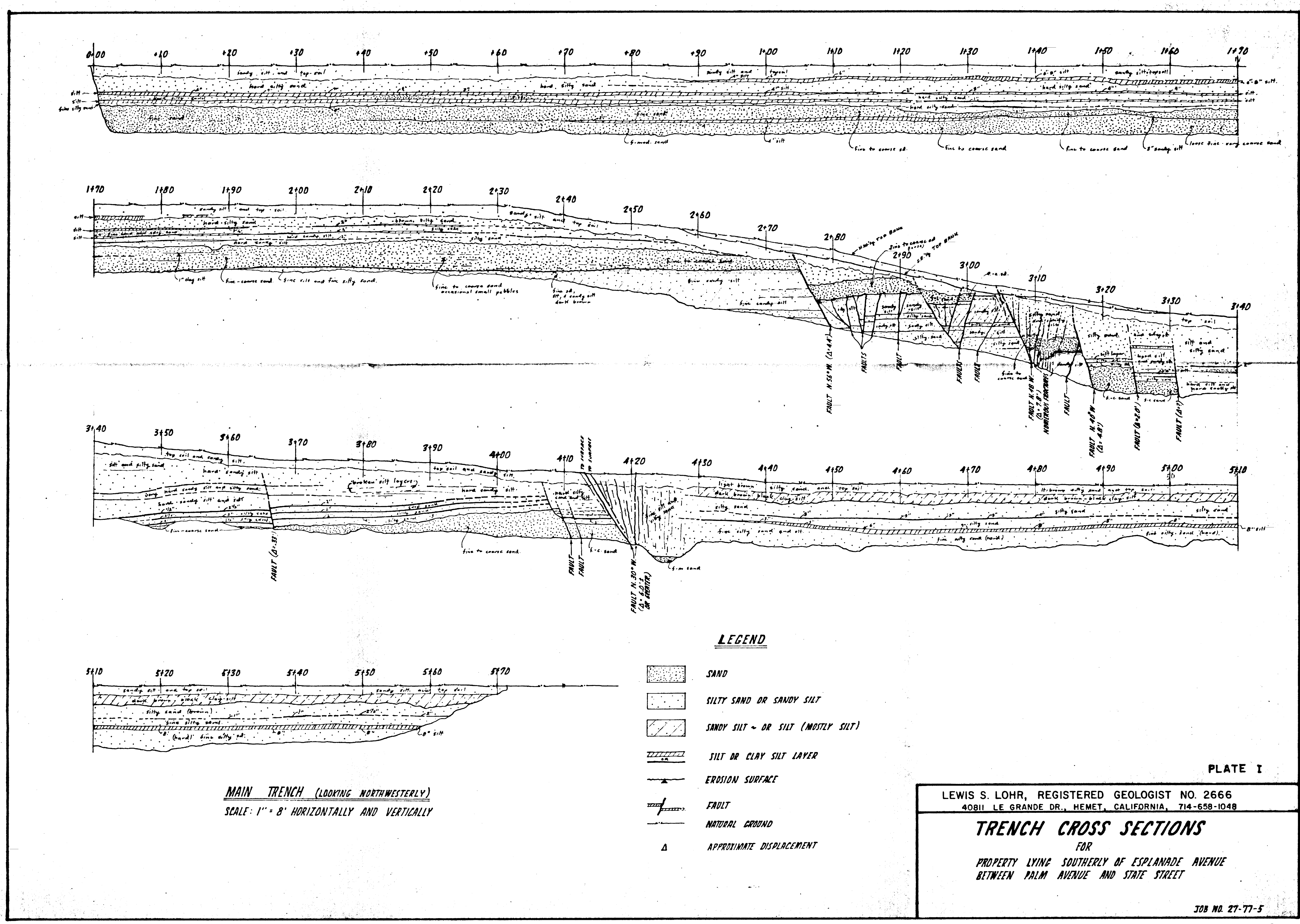
PLATE II

LEWIS S. LOHR, REGISTERED GEOLOGIST NO. 2666
40811 LE GRANDE DR., HEMET, CALIFORNIA, 714-658-1048

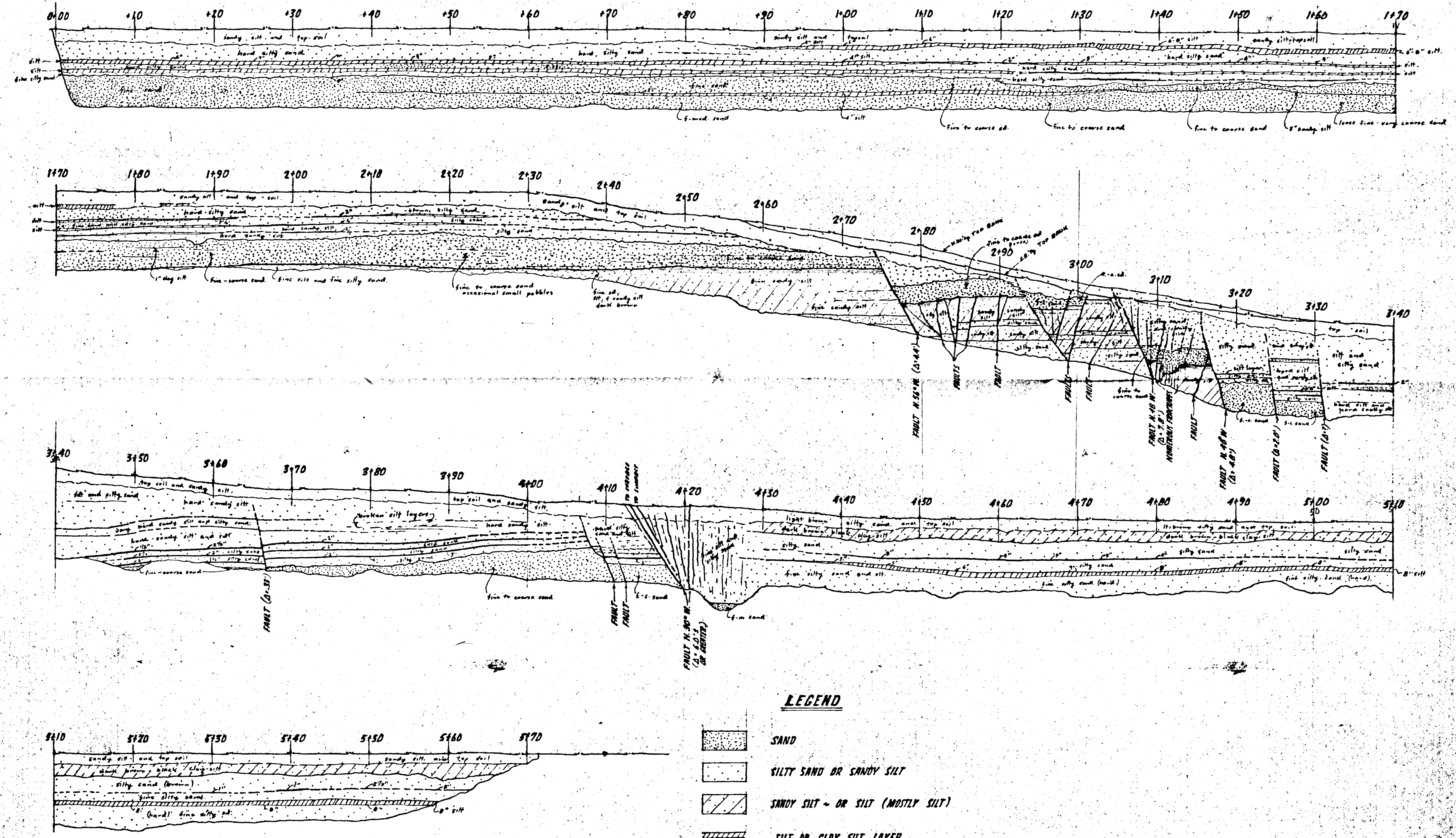
TRENCH CROSS SECTIONS
FOR
PROPERTY LYING SOUTHERLY OF ESPLANADE AVENUE
BETWEEN PALM AVENUE AND STATE STREET

JOB NO. 27-77-5

GR-80


LEGEND
SAND
SILTY SAND OR SANDY SILT
SANDY SILT - OR SILT (MOSTLY SILT)
SILT OR CLAY SILT LAYER
EROSION SURFACE
FAULT
NATURAL GROUND
Δ APPROXIMATE DISPLACEMENT
MAIN TRENCH (LOOKING NORTHWESTERLY)
SCALE: 1" = 8' HORIZONTALLY AND VERTICALLY
PLATE I
LEWIS S. LOHR, REGISTERED GEOLOGIST NO. 2666
40811 LE GRANDE DR., HEMET, CALIFORNIA, 714-658-1048
TRENCH CROSS SECTIONS
FOR
PROPERTY LYING SOUTHERLY OF ESPLANADE AVENUE
BETWEEN PALM AVENUE AND STATE STREET
JOB NO. 27-77-5

GR-80



LEGEND

- SAND
- SILTY SAND OR SANDY SILT
- SANDY SILT – OR SILT (MOSTLY SILT)
- SILT OR CLAY SILT LAYER
- EROSION SURFACE
- FAULT
- NATURAL GROUND

PLATE I

LEWIS S. LOHR, REGISTERED GEOLOGIST NO. 2666
40811 LE GRANDE DR., HEMET, CALIFORNIA, 714-658-1048

TRENCH CROSS SECTIONS

FOR

PROPERTY LYING SOUTHERLY OF ESPLANADE AVENUE
BETWEEN PALM AVENUE AND STATE STREET

JOB NO. 27-77-5

GR-80

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

April 3, 2020

Project No. 12735.001

MIG Inc.
1500 Iowa Avenue, Suite 110
Riverside, California 92507

Attention: Mr. Kent Norton

Subject: Geologic Fault Hazard Peer Review
Proposed S2A Showroom and Factory
(APNs 439-030-009, 439-030-010 and 439-400-023)
City of Hemet, California

References: Fault Rupture Hazard Investigation, Proposed S2A Showroom and Factory Compound, APNs 439-030-009, 439-030-010 and 439-400-023, West of State Street and Crow's Nest Place, City of Hemet, Riverside County, California, prepared by Fred Aflakian, PG, CEG, dated September 26, 2019, Project No. 19-805 Fault

In accordance with your authorization of Task Item 4 from our proposal dated November 8, 2019, Leighton Consulting, Inc. (Leighton) has prepared this third-party peer review of the above referenced Fault Rupture Hazard Investigation performed for the subject site. The above referenced report was received electronically on March 13, 2020.

Our review is based on the *Technical Guidelines for the Review of Geotechnical and Geologic Reports* (Riverside County, 2000) and *Special Publication 42, Earthquake Fault Zones A Guide for Government Agencies, Property Owners/Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards In California* (California Geological Survey, 2018), and Leighton's professional experience and knowledge of the geology in the general project area and region.

Leighton has performed the following tasks to evaluate this report:

- Review of pertinent and readily available published literature, web based resources and in-house documents in regards to fault hazards and geology of the subject area.
- Performed a brief site visit to view surface conditions, current land cover and any landforms or geologic features related to earthquake faulting.
- Reviewed the provided report documents including all attached plans, plates and figures.
- Preparation of this third-party review letter with our comments and recommendations.

INTRODUCTION

The project site occupies vacant land immediately west of the intersection of State Street and Crow's Nest Place in the City of Hemet, Riverside County California. Parcels comprising the property are identified as Riverside County APNs 439-030-009, 439-030-010 and 439-400-023. The land surface across the site is relatively flat with a pronounced northwest trending 15 to 20-foot-high escarpment rising upward along the western part of the site.

The site is located within a portion of a state designated Alquist-Priolo Fault Hazard Zone, a Riverside County fault hazard zone is coincident with the limits of the State A-P Zone at this location. The central portion of the property coincides with a mapped segment of the Casa Loma branch of the San Jacinto fault zone. The San Jacinto fault zone is one of several major active faults within the region and is considered capable of ground rupture and surface displacements during strong earthquakes.

As indicated above, the focus of the investigation centers on the potential Fault Rupture Hazard for the Proposed S2A Showroom and Factory Compound. The consultant performed the following tasks:

- Review of available geologic reports for the general site area and stereo pair aerial photos for the site and surrounding areas.
- Logging of two fault trenches (FT-1 and FT-2), which encompassed approximately 850 linear feet of excavation to depths of up to approximately 12 feet.
- Review of available geologic and geotechnical data and conditions exposed during site fault trench excavation.
- Preparation of an illustrated report presenting their observations, findings, and recommendations.

SUMMARY OF FINDINGS

The consultant performed a review of historic aerial photos and identified the prominent geomorphic lineament formed by the scarp where it crosses the site as well as several weaker lineaments to its southwest. Field review and exploratory trenching by the consultant identified active faulting in the area of the scarp, but not in the vicinity of the southwest lineaments.

The exploratory trenches (FT-1 and FT-2) were 560 feet and 290 feet respectively and approximately 10 to 12 feet in depth. Both trenches traversed the southwestern portion of the A-P Fault Zone, extended across the scarp where the fault zone was exposed and continued 50 to 150 feet beyond the scarp to the northeast. However, the extent of the trenches as presented in the report do not appear to cover the entire A-P Fault Hazard Zone.

The site is primarily underlain by deposits of late Holocene (recent) alluvium and colluvium. The exploratory trench logs indicate the near surface deposits consist of topsoil, undocumented man-made artificial fill soils, alluvial and colluvial sediments. The presence of ground water was not indicated in review of the documents that we examined.

The fault structures exposed in the trenches coincide with the slope of the scarp landform and break to the surface or near surface. These faults exhibit apparent displacement (downward to the east) of differing deposits across the individual fault planes and collectively across the zone. The apparent age of the faulted deposits and elevation of fault rupture (to the surface) indicate a Holocene-age and active fault structures in this area.

The consultant delineates a recommended fault setback zone of 50 feet along either side of their projected surface trace of the fault zone. The fault trace as mapped on the site plans shows three segments of different orientation traversing the site. The northern most segment between the northern project boundary and trench FT-1 appears to strike approximately north 38 degrees west. Continuing to the southeast, the mapped fault trace between trench FT-1 and the internal property corner (~380 feet southeast of trench FT-2) is oriented approximately 50 to 53 degrees west of north. Continuing to the south the trace presented follows the southeast trending (N32ºW) property boundary line. Consultant indicates that the mapped trace presented on the plans is based both on the location and orientation of the fault planes exposed in the trenches and the location of the scarp landform.

CONCLUSIONS AND RECOMMENDATIONS

Based on our review, we recommend the following additional information be provided or performed by the consultant to support their findings:

- Consult with Riverside County Geologist and or City to review any available reports relative to faulting on the adjacent or nearby developed properties. A discussion of those findings should be provided.
- Include limits of Alquist-Priolo zone on Site Plan (Plate 1).
- For proposed buildings “D” and “E” that occupy un-trenched portions of the A-P Zone, provide clear evidence of the absence of faulting at those building locations.
- Discuss the potential for possible Holocene-aged faulting buried by young deposits or obscured by historic land use in the lower lying eastern un-trenched portions of A-P Zone.

- Secondary seismic hazards including; ground subsidence and liquefaction, ground lurching, lateral spreading, and seismically induced flooding should also be addressed and mitigation recommendations provided as necessary.

We appreciate the opportunity to be of service. If you have any questions or concerns, please contact us at your convenience. The undersigned can be reached at 951.296.0530.

Respectfully submitted,

LEIGHTON CONSULTING, INC.

PROFESSIONAL GEOLOGIST
MITCHEL S. BORNYASZ
No. 2416
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Mitchel S. Bornyasz, CEG 2416
Project Geologist

Distribution: (1) Addressee

July 1, 2020 Project No.19-805 Fault

S2 Modular
24360 Village Walk Pl.
Murrieta, California 92562

Attention: Lucy Martinez

Subject: Response to Peer Review by Leighton Consulting dated April 3, 2020, Proposed S2A Showroom and Factory Compound, APNs 439-030-009, 439-030-010 and 439-400-023, West of State Street and Crow's Nest Place, City of Hemet, Riverside County, California

Lucy,

Presented herewith is our response to the peer review by Leighton Consulting dated April 3, 2020 for the subject site. A copy of the peer review is included with this report.

Comment 1:
Consult with Riverside County Geologist and or City to review and available reports relative to faulting on the adjacent or nearby developed properties. A discussion of those findings should be provided.

Response:
The following reports were provided by the Riverside County Geologist:

- Gary S. Rasmussen and Associates, 1975, Engineering Geology Investigation, Mesa Terrace Tract, Lot 4, Hemet, California, Project No. 1104, dated June 16, 1975.

- Lohr, Lewis S., 1977, Fault Hazard Report for a Portion of Lots 104 and 105, of the Estudillo Land and Water Company Addition as shown in M.B. 9-410 Records of San Diego County, Lying within the Rancho San Jacinto Viejo, Job No. 27-77-5, dated May 17, 1977.

The engineering geology investigation prepared by Gary S. Rasmussen was located directly to the south of and included a potion of the subject site. Fault trenching was performed as part of their investigation. Applicable fault trench locations are presented on the Fault Trench Location Map, Plate 1.

The fault hazard report prepared by Lewis S. Lohr was located directly north of the subject site. Fault trenching was performed as part of their investigation. Applicable fault trench locations are presented on the Fault Trench Location Map, Plate 1.

The fault setback zone was adjusted at the north and south ends of the subject site to correlate with adjacent studies.

In addition to the above reports, we also reviewed the following geotechnical report for the subject site:

- Soil Exploration Company, Inc., 2019, Preliminary Soil Investigation, Infiltration Tests and Liquefaction Evaluation Report, Proposed Modular Homes Manufacturing Facility, State Street (APN 439-030-009, 439-030-010 and 439-040-023), City of Hemet, California, Project No. 1999-01, dated October 11, 2019

Pertinent data from this report was utilized in this response.

Comment 2:
Include limits of Alquist-Priolo zone on Site Plan (Plate 1).

Response:
The limits of Alquist-Priolo zone are shown on the Fault Trench Location Map (Plate 1).

Comment 3:
For proposed buildings "D" and "E" that occupy un-trenched portions of the A-P Zone, provide clear evidence of the absence of faulting at those building locations.

Response:
Fault trenching was performed by Rasmussen and Associates across the un-trenched portion of the AP zone in the northeast portion of the site. No evidence of faulting was noted in this area.

Comment 4:
Discuss the potential for possible Holocene-aged faulting buried by young deposits or obscured by historic land use in the lower lying eastern un-trenched portions of A-P zone.

Response:
Fault trenching was performed by Rasmussen and Associates across the un-trenched portion of the AP zone in the northeast portion of the site. No evidence of faulting was noted in this area.

Comment 5:
Secondary seismic hazards including: ground subsidence and liquefaction; ground lurching; lateral spreading; and seismically induced flooding should also be addressed, and mitigation recommendations provided as necessary.

Response:
<u>Ground Subsidence</u>
The county of Riverside has mapped the general site area as being susceptible to ground subsidence. Continued pumping of groundwater within the graben between the Casa Loma and Claremont branches of the San Jacinto fault zone has resulted in regional ground subsidence in some areas of the San Jacinto Valley. Continued pumping of groundwater in the vicinity of the

tract will probably result in continual lowering of the groundwater table northeast of the Casa Loma fault with additional regional subsidence of that area in the future.

Liquefaction

The County of Riverside has mapped the general site area as being moderately susceptible to liquefaction. Soil Exploration Company, Inc. (2019) performed a liquefaction evaluation for the subject site. The results of the evaluation are presented in their referenced report.

Ground Lurching and Lateral Spreading

Ground lurching and lateral spreading could occur due to the differing elevations on either side of the fault. However, the hazardous effects during an earthquake should be confined to the same zone as would be disturbed by fault rupture (the zone between recommended set-back lines on the enclosed Plate 1).

Flooding

The project site is not located in a designated area having the potential for flooding by the County of Riverside. The site lies far enough from the coast or large inland body of water to preclude the dangers from flood inundation.

CLOSURE

Our findings were obtained in accordance with generally accepted current professional principles and local practice in geotechnical engineering. We make no other warranty, either express or implied.

This report is subject to review by the controlling authorities for the project. We thank you for the opportunity of providing our services to you on this project.

Edward L. Burrows, MS, PG, CEG 1750
Engineering Geologist

Fred Aflakian, PG, CEG 2051
Engineering Geologist

Attachments:

Plate 1 – Fault Trench Location Map
Appendix A - References
Appendix B – Geologic Cross-Sections by Gary S. Rasmussen and Associates and Lewis Lohr

APPENDIX A
REFERENCES

Aflakian, Fred, PG, CEG, 2019, Fault Rupture Investigation, Proposed S2A Showroom and Factory Compound, APNs 439-020-009, 439-030-010, 439-400-023, West Side of State Street and Crow's Nest Place, City of Hemet, Riverside County, California, Project No. 19-605 Fault, dated September 26, 2019

Gary S. Rasmussen and Associates, 1975, Engineering Geology Investigation, Mesa Terrace Tract, Lot 4, Hemet, California, Project No. 1104, dated June 16, 1975

Leighton Consulting, Inc., 2020, Geologic Fault Hazard Peer Review, Proposed S2A Showroom and Factory, (APNs 439-030-009, 439-030-010 and 439-400-023), City of Hemet, California, Project No.12735.001, dated April 3, 2020

Lohr, Lewis S., 1977, Fault Hazard Report for a Portion of Lots 104 and 105, of the Estudillo Land and Water Company Addition as shown in M.B. 9-410 Records of San Diego County, Lying within the Rancho San Jacinto Viejo, Job No. 27-77-5, dated May 17, 1977

Riverside County Planning Commission – Planning Department, 1975, County Geologic Report #36, Parcel Map 6911, Project 1104, GR-36, dated August 11, 1975

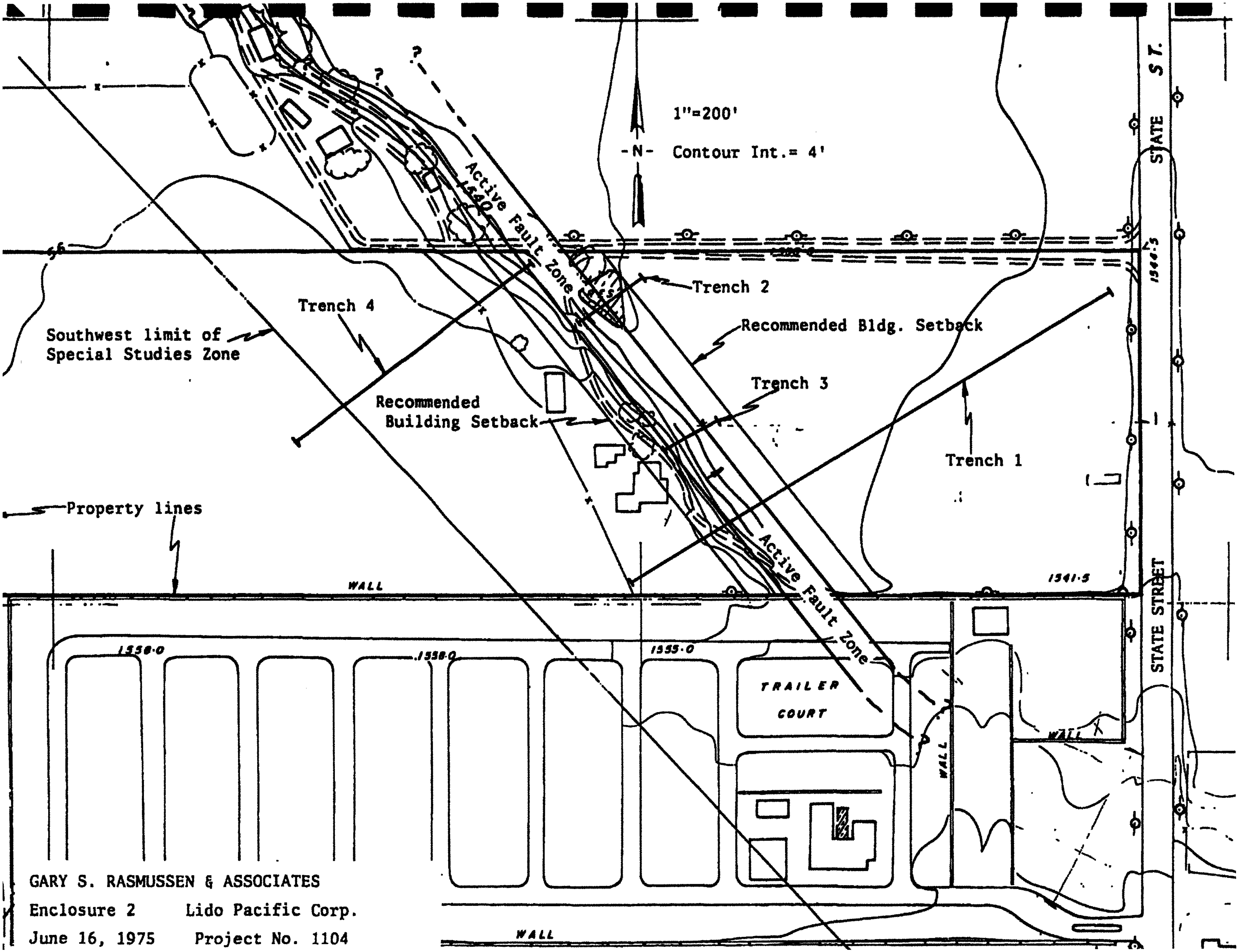
Riverside County Geographic Information System (GIS), https://gis.countyofriverside.us/

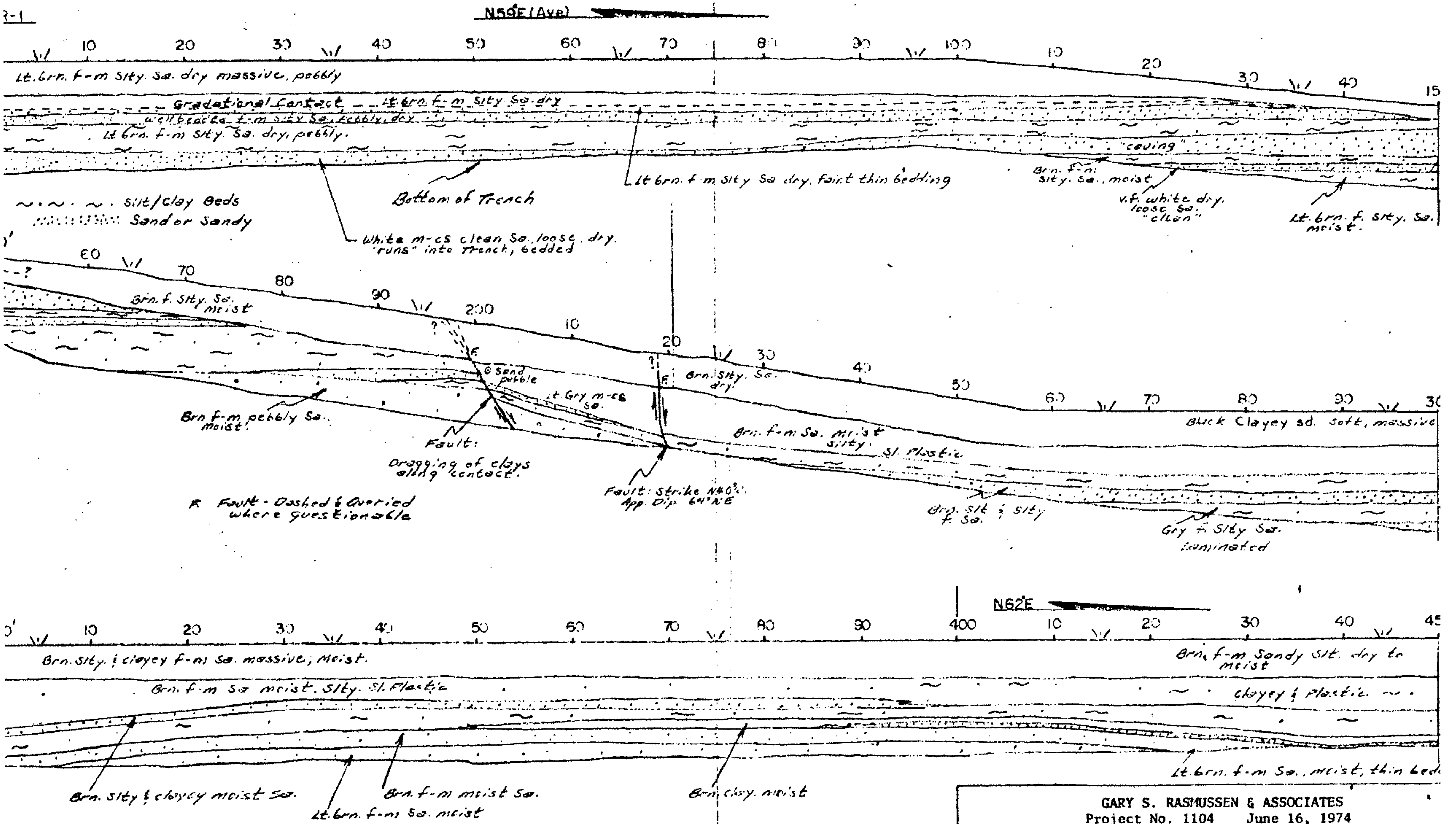
Sake Engineering Inc., 2019, City of Hemet Plot Plan, Lot 5 and a Portion of Lot 4 of Mesa Terrace Tract, in the City of Hemet, County of Riverside, State of California, dated April 29, 2020

Soil Exploration Company, Inc., 2019, Preliminary Soil Investigation, Infiltration Tests and Liquefaction Evaluation Report, Proposed Modular Homes Manufacturing Facility, State Street (APN 439-030-009, 439-030-010 and 439-040-023), City of Hemet, California, Project No. 1999-01, dated October 11, 2019

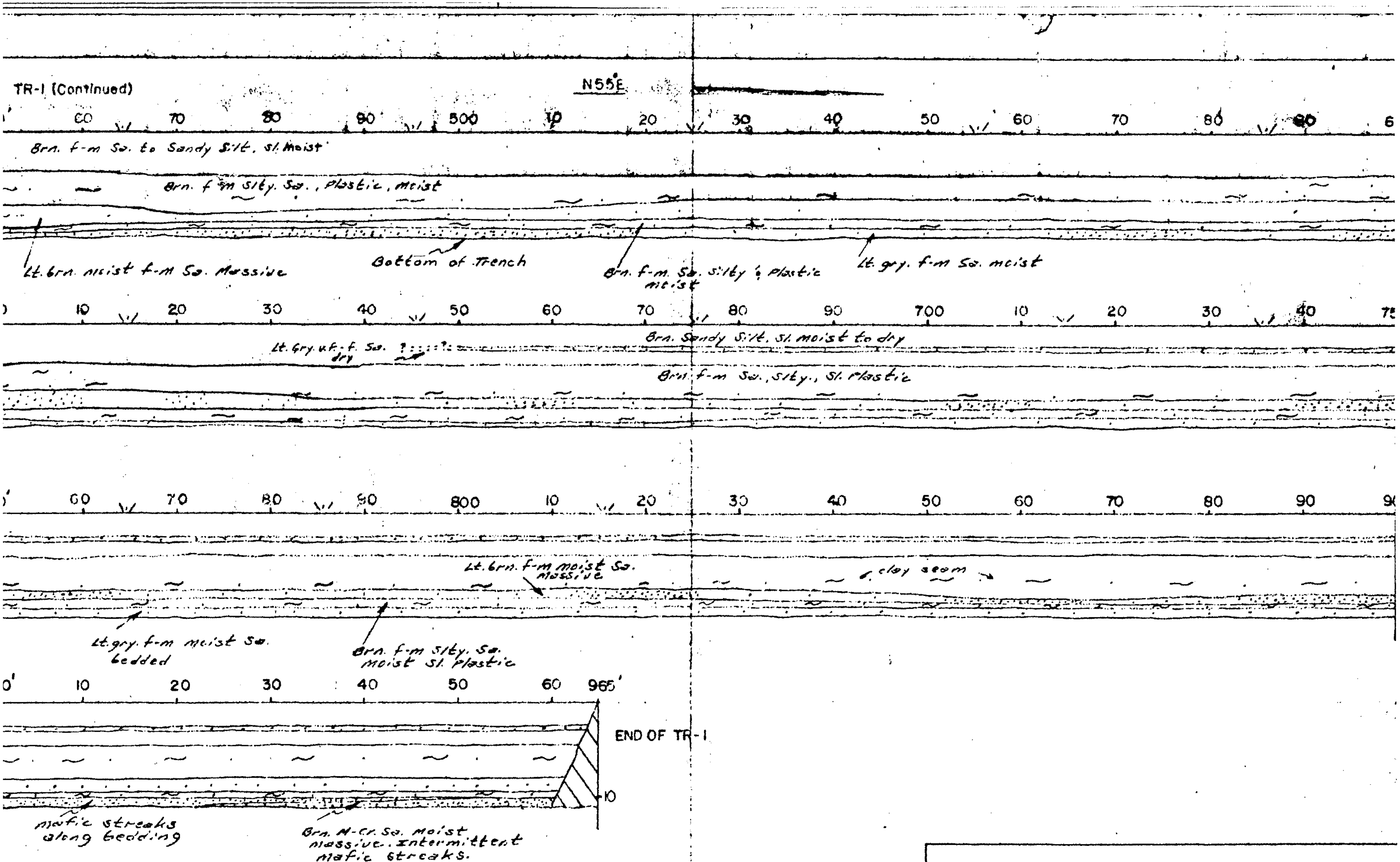
Appendix B

Geologic Cross-Sections by Gary S. Rasmussen and Associates and Lewis Lohr


1"=200'
-N-
Contour Int.= 4'
STATE ST.
STATE STREET
Active Fault Zone
Active Fault Zone
1540
Trench 1
Trench 2
Trench 3
Trench 4
Recommended Bldg. Setback
Recommended Building Setback
Southwest limit of Special Studies Zone
Property lines
WALL
WALL
WALL
WALL
TRAILER COURT
1541.5
1544.5
1555.0
1558.0
1558.0
GARY S. RASMUSSEN & ASSOCIATES
Enclosure 2
Lido Pacific Corp.
June 16, 1975
Project No. 1104



GARY S. RASMUSSEN & ASSOCIATES
Project No. 1104 June 16, 1974
Logged by MS:GR Drawn by MS
Enclosure 4 Trench 1

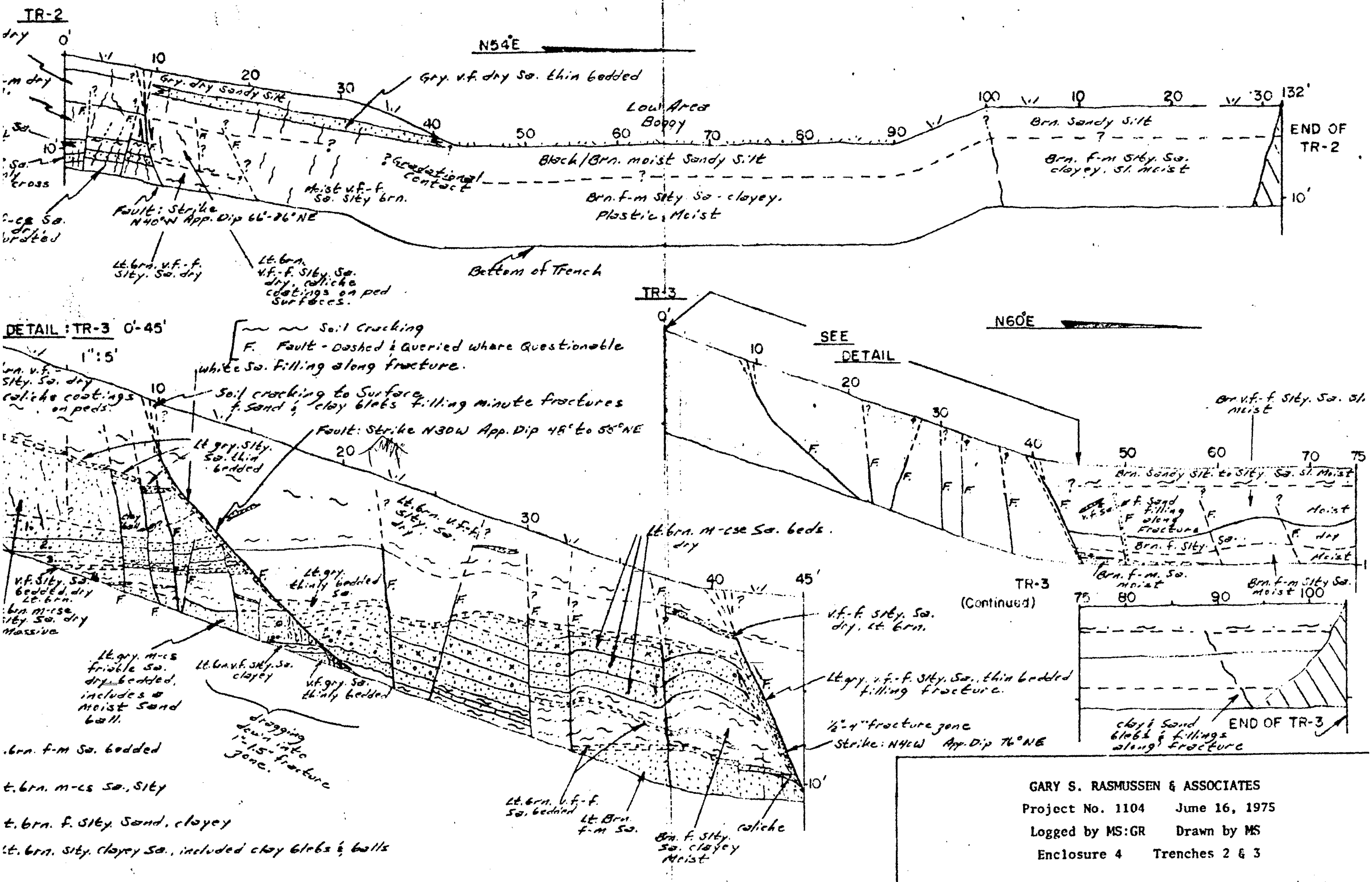


GARY S. RASMUSSEN & ASSOCIATES

Project No. 1104 June 16, 1975

Logged by MS:GR Drawn by MS

Enclosure 4 Trench 1

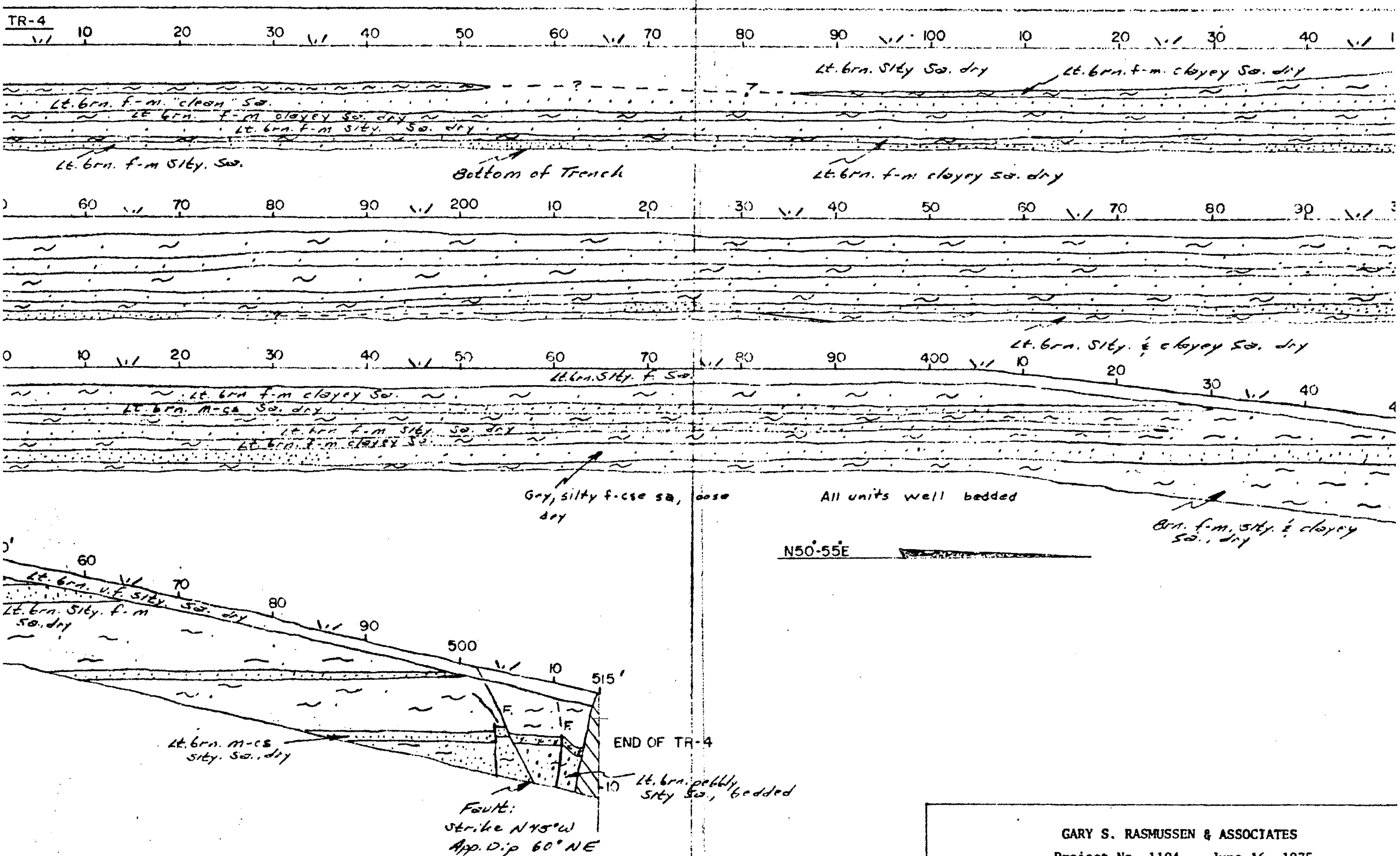


GARY S. RASMUSSEN & ASSOCIATES

Project No. 1104 June 16, 1975

Logged by MS:GR Drawn by MS

Enclosure 4 Trenches 2 & 3



GARY S. RASMUSSEN & ASSOCIATES

Project No. 1104 June 16, 1975

Logged by MS:GR Drawn by MS

Enclosure 4 Trench 4

CEO 003

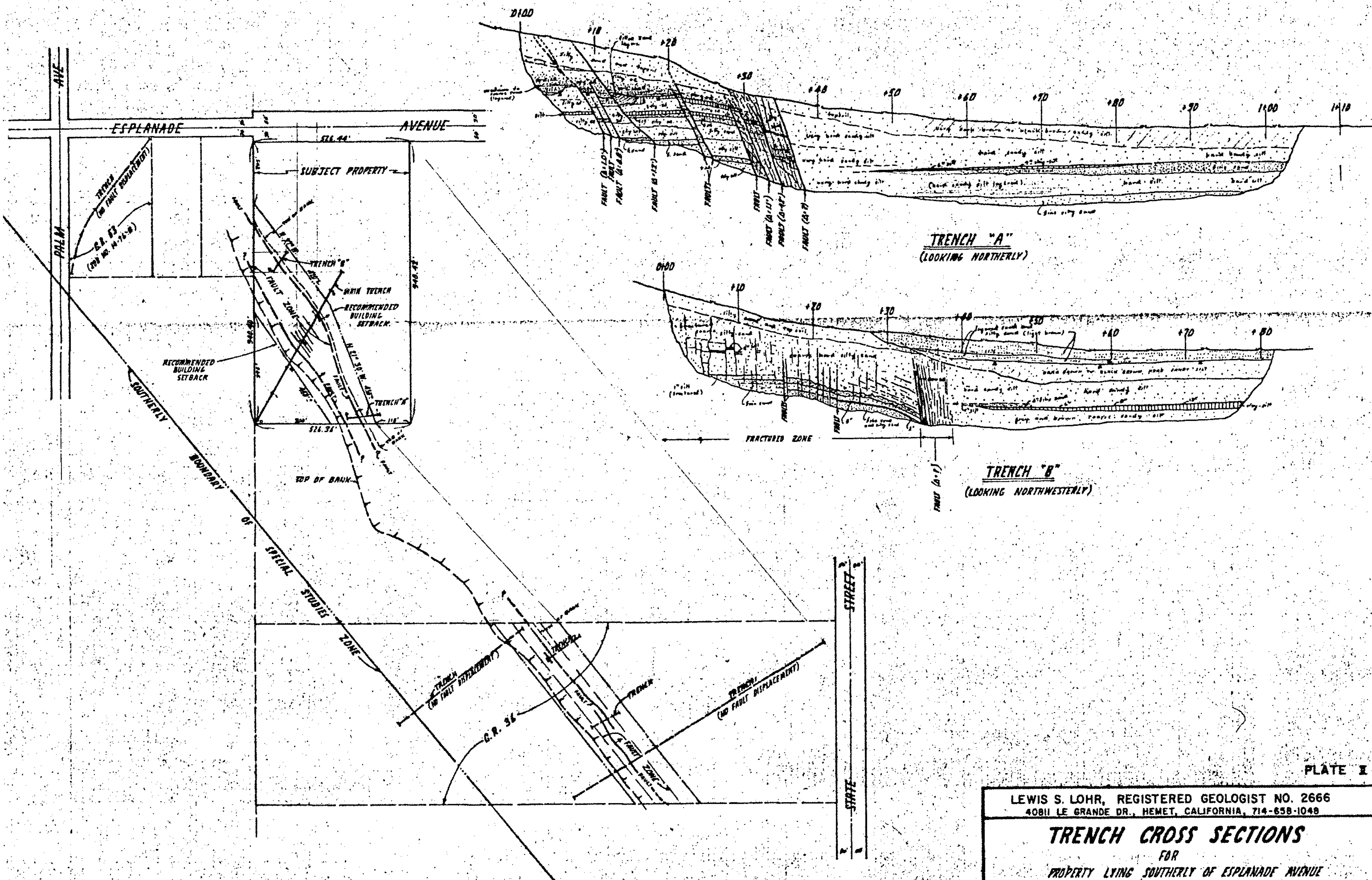


PLATE II

LEWIS S. LOHR, REGISTERED GEOLOGIST NO. 2666
40811 LE GRANDE DR., HEMET, CALIFORNIA, 714-658-1048

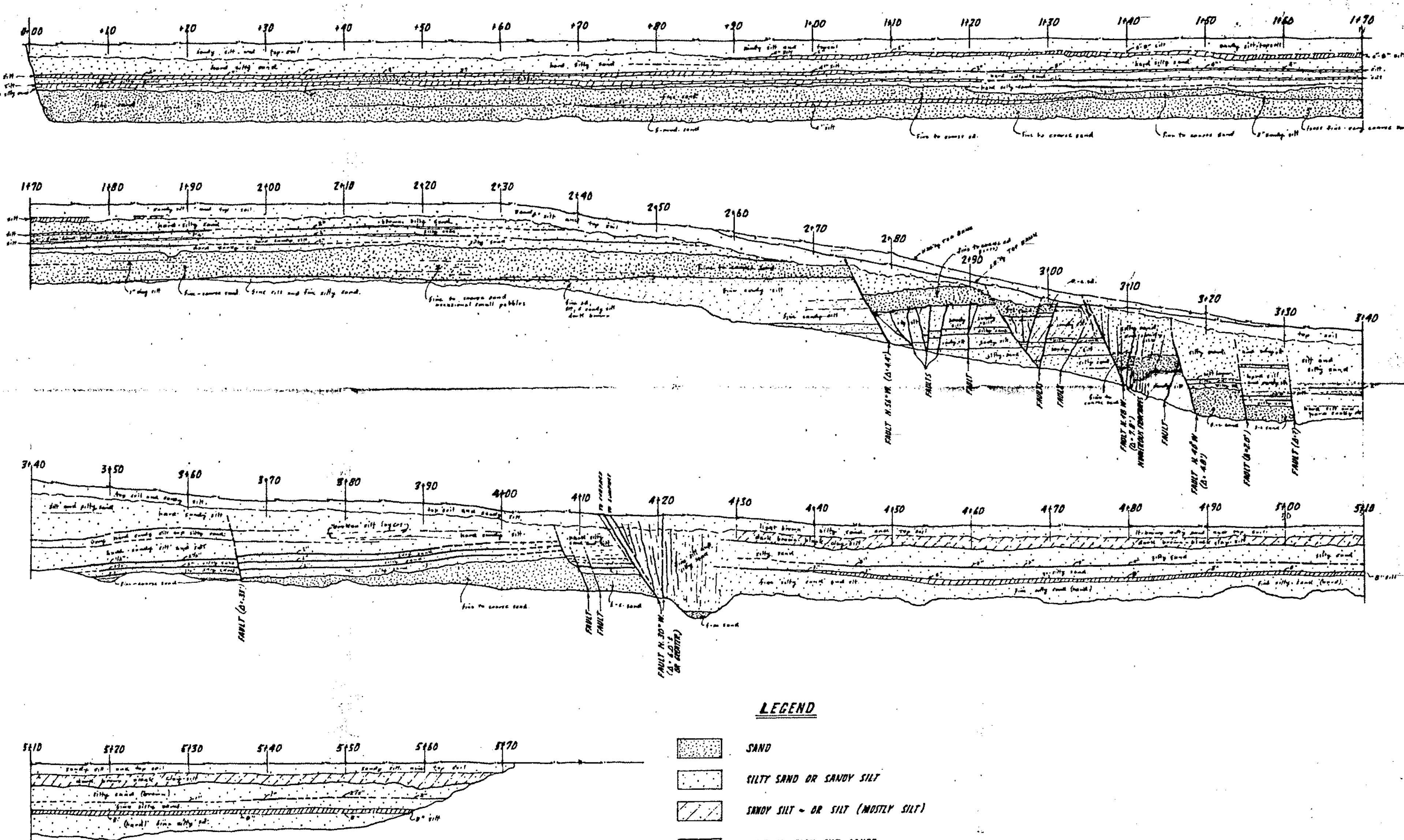
TRENCH CROSS SECTIONS

FOR

PROPERTY LYING SOUTHERLY OF ESPLANADE AVENUE BETWEEN PALM AVENUE AND STATE STREET

JOB NO. 27-77-5

GR-80



MAIN TRENCH (LOOKING NORTHWESTERLY)

SCALE: 1" = 8' HORIZONTALLY AND VERTICALLY

LEGEND

- SAND
- SILTY SAND OR SANDY SILT
- SANDY SILT - OR SILT (MOSTLY SILT)
- SILT OR CLAY SILT LAYER
- EROSION SURFACE
- FAULT
- NATURAL GROUND
- Δ APPROXIMATE DISPLACEMENT

PLATE I

LEWIS S. LOHR, REGISTERED GEOLOGIST NO. 2666
40811 LE GRANDE DR., HEMET, CALIFORNIA, 714-658-1048

TRENCH CROSS SECTIONS

FOR

PROPERTY LYING SOUTHERLY OF ESPLANADE AVENUE
BETWEEN PALM AVENUE AND STATE STREET

JOB NO. 27-77-5

GR-80

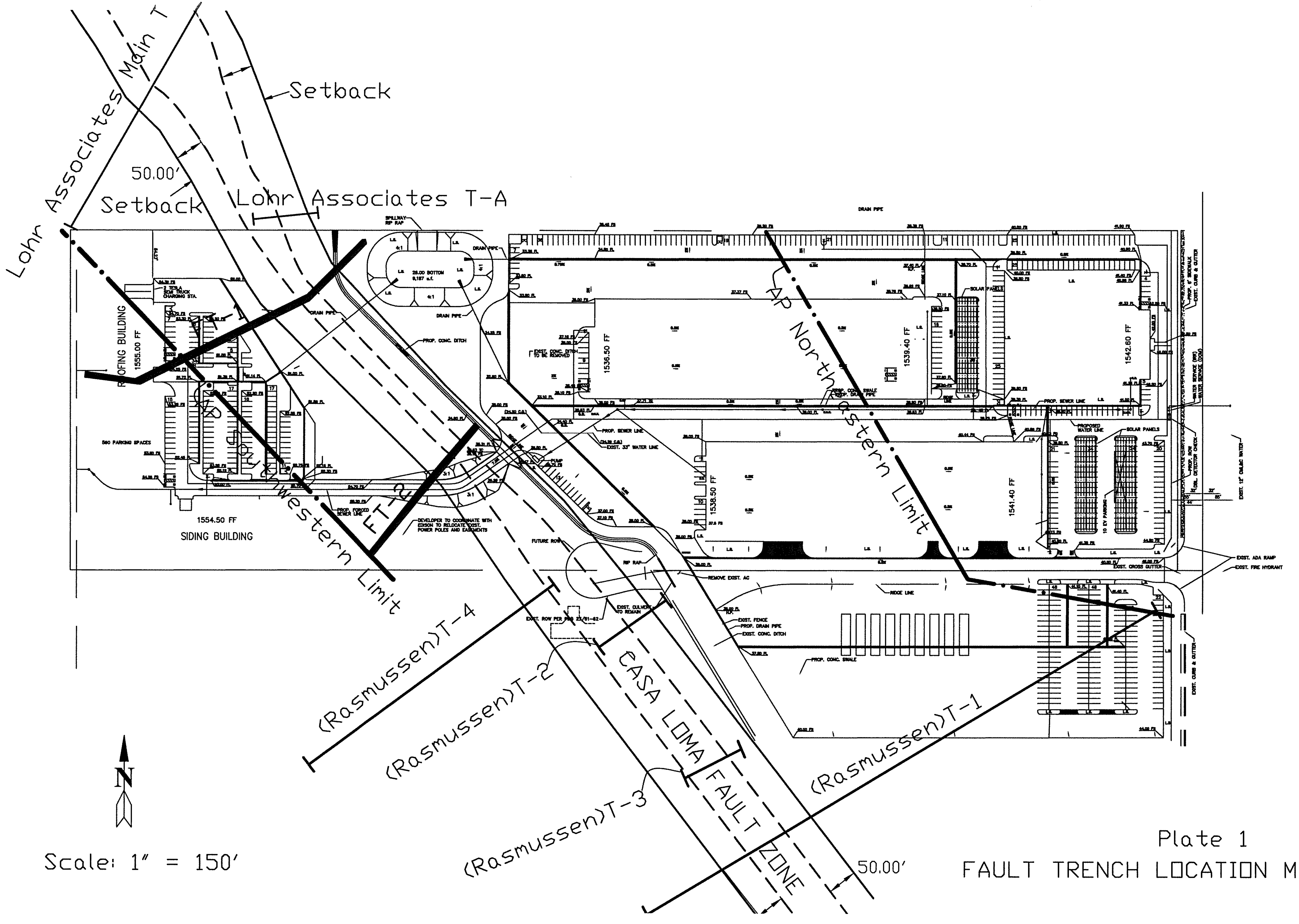


Plate 1
FAULT TRENCH LOCATION MAP

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

July 21, 2020

Project No. 12735.001

MIG Inc.
1500 Iowa Avenue, Suite 110
Riverside, California 92507

Attention: Mr. Kent Norton

Subject: **Geologic Fault Hazard Peer Review #2**
Proposed S2A Showroom and Factory
(APNs 439-030-009, 439-030-010 and 439-400-023)
City of Hemet, California

References: Fault Rupture Hazard Investigation, Proposed S2A Showroom and Factory Compound, APNs 439-030-009, 439-030-010 and 439-400-023, West of State Street and Crow's Nest Place, City of Hemet, Riverside County, California, prepared by Fred Aflakian, PG, CEG, dated September 26, 2019, Project No. 19-805 Fault

Leighton Consulting, Inc., 2020, Geologic Fault Hazard Peer Review, Proposed S2A Showroom and Factory, (APNs 439-030-009, 439-030-010 and 439-400-023), City of Hemet, California, Project No.12735.001, dated April 3, 2020

Response to Peer Review by Leighton Consulting dated April 3, 2020, Proposed S2A Showroom and Factory Compound, APNs 439-030-009, 439-030-010 and 439-400-023, West of State Street and Crow's Nest Place, City of Hemet, Riverside County, California, prepared by Fred Aflakian, PG, CEG, dated July 1, 2020, Project No. 19-805 Fault

In accordance with your request, we reviewed the above referenced Response addressing our review comments regarding onsite faulting. Based on this review, it is our opinion that the Consultant's response is satisfactory and no further action is required from a "Fault Rupture Hazard" perspective. We recommend that this response become a part or considered as an addendum to the submitted Fault Rupture Hazard Investigation referenced above.

We appreciate the opportunity to be of service on this project and please do not hesitate to contact us if you have any questions.

Respectfully submitted,

LEIGHTON CONSULTING, INC.

PROFESSIONAL GEOLOGIST
MITCHEL S. BORNYASZ
No. 2416
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Mitchel S. Bornyasz, CEG 2416
Project Geologist

Distribution: (1) Addressee (PDF copy via email)

41715 Enterprise Circle N., Suite 103 ▪ Temecula, CA 92590-5661
951.296.0530 ▪ Fax 951.296.0534

SOIL
EXPLORATION
COMPANY, INC.

Soil Engineering, Environmental Engineering, Materials Testing, Geology

May 20, 2020

Project No. 1999-01

TO: S2A Modular
24360 Village Walk Pl., Ste. A
Murrieta, CA 92562

ATTENTION: Lucy Martinez

SUBJECT: Additional Recommendations for Site Preparation and Compaction, Proposed Modular Homes Manufacturing Facility, State Street (APN 439-030-009, 439-030-010 and 439-040-023), City of Hemet, California

REFERENCE: Soil Exploration Company, Inc. “Preliminary Soil Investigation, Infiltration Tests and Liquefaction Evaluation Report, Proposed Modular Homes Manufacturing Facility, State Street (APN 439-030-009, 439-030-010 and 439-040-023), City of Hemet, California” Report Dated 10/11/19 (Project No. 1999-01)

Introduction

As discussed with you, we have prepared the following addendum for site preparation and compaction at the subject site.

Recommendations

1. The use of structural mat foundation had already been recommended in our above referenced report.

2. In order to further reduce the potential settlement, consideration may be given to increase the compaction of fill to at least 95%

3. The need for any deeper overexcavation and/or recompaction and the use of geogrid should be determined by inspection and testing of conditions exposed during grading.

Closure

If you should have any questions regarding this report, please do not hesitate to call our office. We appreciate this opportunity to be of service.

Very truly yours,
Soil Exploration Co., Inc.

Gene K. Luu, PE 53417
Project Engineer

Sid A. Siddiqui, M.Sc, PE, GE 775
Principal Geotechnical Engineer

Distribution: [1] Addressee

7535 Jurupa Ave., Unit C • Riverside, CA 92504 • Tel: (951) 688-7200 • Fax: (951) 688-7100
soilexploration@yahoo.com • www.soilexp.com

NOISE IMPACT ANALYSIS

S2A Modular Factory
State Street & Crows Nest Place
Hemet, California 92543

Prepared For

S2A Modular
Attention: John Rowland
24360 Village Walk Place, Suite A
Murrieta, California 92562
Phone: 951-760-4887

Prepared By

Eilar Associates, Inc.
Acoustical & Environmental Consulting
210 South Juniper Street, Suite 100
Escondido, California 92025
www.eilarassociates.com
Phone: 760-738-5570
Fax: 760-738-5227

Job # S190701

June 18, 2020

TABLE OF CONTENTS

FIGURES

APPENDICES

1.0 EXECUTIVE SUMMARY

The proposed project, known as S2A Modular Factory, consists of the construction of a modular home factory on a 32.1-acre lot. The project site is located at the northwest corner of State Street and Crows Nest Place in the City of Hemet, California.

Noise from the anticipated operational equipment and activities on site has been calculated to determine impacts at off-site receivers. Calculations show that noise levels from project operation will be in compliance with the City of Hemet noise regulations for daytime hours found within the General Plan. No factory operations are proposed to occur outside of daytime hours. No project design features are deemed necessary to control project-generated noise impacts from project operation. Project-generated traffic noise is also expected to be less than significant at off-site receivers.

Noise levels from temporary construction activities associated with this project are expected to comply with the applicable City of Hemet construction noise limits at all surrounding property lines, with activity limited to the hours of 6 a.m. and 6 p.m. from June 1 through September 30 and the hours of 7 a.m. and 6 p.m. from October 1 to May 31 on Monday through Friday. Grading is prohibited on Saturdays between the hours of 6 p.m. and 7 a.m. and Sundays, year-round. The general good practice construction noise control methods listed herein should be followed, as a courtesy to surrounding properties.

The proposed project is not expected to result in any potentially significant noise impacts by the standards of the California Environmental Quality Act (CEQA). Noise impacts are summarized in Section 5.3.

2.0 INTRODUCTION

This acoustical analysis report is submitted to satisfy the noise requirements of the City of Hemet. Its purpose is to assess noise impacts from potential project-related noise sources, such as mechanical equipment, site activity, and project-generated traffic, as well as temporary construction noise. This analysis aims to determine if additional project design features are necessary and feasible to reduce these impacts to comply with the applicable noise regulations of the City of Hemet Public Safety Element to the General Plan and Municipal Code. Potential impacts will also be assessed for significance per the California Environmental Quality Act (CEQA).

All noise level or sound level values presented herein are expressed in terms of decibels, with A-weighting to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol L_{EQ} for a specified duration. The Community Noise Equivalent Level (CNEL) is a calculated 24-hour weighted average, where sound levels during evening hours of 7 p.m. to 10 p.m. have an added 5 dB weighting, and sound levels during nighttime hours of 10 p.m. to 7 a.m. have an added 10 dB weighting. This is similar to the Day-Night sound level, L_{DN}, which is a 24-hour average with an added 10 dB weighting on the same nighttime hours but no added weighting on the evening hours. Sound levels expressed in CNEL are always based on A-weighted decibels. These metrics are used to express noise levels for both measurement and municipal regulations, for land use guidelines, and for enforcement of noise ordinances.

Sound pressure is the actual noise experienced by a human or registered by a sound level instrument. When sound pressure is used to describe a noise source, the distance from the noise source must be specified in order to provide complete information. Sound power, on the other hand, is a specialized analytical metric to provide information without the distance requirement, but it may be used to calculate the sound pressure at any desired distance.

2.1 Project Description

The proposed project, known as S2A Modular Factory, consists of the construction of a modular home factory on a 32.1-acre lot. The project will be constructed in two phases. Phase 1 consists of the construction of an approximately 100,000-square-foot factory building. Phase 2 consists of the construction of a second factory building, an office building, and two storage buildings. Operational hours for all buildings are proposed to be 7 a.m. to 5 p.m., Monday through Friday. For additional project details, please refer to the project plans provided in Appendix A.

The project site is surrounded by commercial uses to the north and single-family residential uses to the south and west.

2.2 Project Location

The project site is located at the northeast corner of State Street and Crows Nest Place in the City of Hemet, California. The Assessor's Parcel Numbers (APNs) are 439-030-009, 439-030-010, and 439-040-023. The site is currently vacant. For a graphical representation of the site, please refer to the Vicinity Map, Assessor's Parcel Map, Satellite Aerial Photograph, and Topographic Map, provided as Figures 1 through 4, respectively.

2.3 Applicable Noise Regulations

This acoustical report is submitted to satisfy the acoustical requirements of the City of Hemet Public Safety Element to the General Plan and Municipal Code.

The City of Hemet Public Safety Element to the General Plan, specifies noise level limits to nearby noise-sensitive receivers. Noise levels have been evaluated at the nearest noise-sensitive receivers beyond adjacent roadways and sidewalks. The General Plan states that noise impacts to off-site noise-sensitive receivers should not exceed 60 dBA L_{EQ} between the hours of 7 a.m. and 10 p.m. and 45 dBA L_{EQ} between the hours of 10 p.m. and 7 a.m. Additionally, maximum noise impacts should not exceed 75 dBA L_{MAX} during daytime hours, and 65 dBA L_{MAX} during nighttime hours. The General Plan also incorporates a five decibel penalty for simple tone noises, such as backup alarms.

Additionally, Section 67-10 of the City of Hemet Municipal Code states that grading activity is limited to between the hours of 6 a.m. and 6 p.m. from June 1 through September 30 and between the hours of 7 a.m. and 6 p.m. from October 1 to May 31 on Monday through Friday. Grading is prohibited on Saturdays between the hours of 6 p.m. and 7 a.m. and Sundays, year-round. The Code does not include specific noise limits for construction activity; however, 75 dBA is a commonly used construction noise threshold that has been applied to this project.

Pertinent sections of the City of Hemet Public Safety Element to the General Plan and Municipal Code are provided as Appendix B.

3.0 ENVIRONMENTAL SETTING

3.1 Existing Noise Environment

The primary noise sources in the vicinity of the project site includes automobile and truck traffic noise from State Street. No other noise source is considered significant.

3.1.1 Roadway Traffic Noise

Current traffic volumes are given based on traffic counts by Ganddini Group, Inc., for the traffic impact study for the project.

State Street is a four-lane Divided Secondary Roadway running north-south along the east boundary of the project site. The posted speed limit is 45 mph to the north of the project site and 40 mph to the south of the site. The observed speed was 55 mph. In the vicinity of the project site, State Street currently carries a traffic volume of approximately 20,000 Average Daily Trips (ADT) and 19,600 ADT north and south of Crows Nest Place, respectively.

Crows Nest Place is a two-lane, unpaved roadway running east-west along the south boundary of the project site. There is no posted speed limit for Crows Nest Place; however, cars were observed to be traveling at approximately 20 mph. In the vicinity of the project site, Crows Nest Place currently carries a traffic volume of approximately 200 ADT.

No current or future truck percentages were available for roadways in the vicinity of the project site. However, based on neighboring and surrounding land use, roadway classification, professional experience, and on-site observations, a truck percentage mix of 2.0% medium and 3.0% heavy trucks was used for State Street, and a truck percentage mix of 2.0% medium and 1.0% heavy trucks was used for Crows Nest Place.

3.1.2 Measured Noise Level

An on-site inspection and traffic noise measurement were made on the morning of Tuesday, October 22, 2019. The noise measurement was made using the methodology described in Section 4.1 at a location approximately 35 feet from the State Street centerline and 43 feet from the Crows Nest Place centerline. The microphone was placed at approximately five feet above the road grade. Traffic volumes for State Street were recorded for automobiles, medium-size trucks, and large trucks during the measurement period. After a continuous 15-minute sound level measurement, no changes in the L_{EQ} were observable and results were recorded. The measured noise level and related weather conditions are found in Table 1 and the measurement location is shown in Figure 3.

Table 1. On-Site Noise Measurement Conditions and Results	
Date	Tuesday, October 22, 2019
Time	11:49 a.m. – 12:05 p.m.
Conditions	Sunny skies, light wind at 4 mph, temperature in the high 80s with low humidity
Measured Noise Level	76.5 dBA L_{EQ}

3.1.3 Calculated Noise Level

Noise levels were calculated for the site using the methodology described in Section 4.1 for the location, conditions, and traffic volumes counted during the noise measurements. The calculated noise levels (L_{EQ}) were compared with the measured on-site noise level to determine if adjustments or corrections (calibration) should be applied to the traffic noise prediction model. Adjustments are intended to account for site-specific variances in overall reflectivity or absorption, which may not be accurately represented by the default settings in the model.

The measured noise level of 76.5 dBA L_{EQ} at 35 feet from the State Street centerline and 43 feet from the Crows Nest Place centerline was compared to the calculated (modeled) noise level of 75.9 dBA L_{EQ} for the same weather conditions and traffic flow. According to the Federal Highway Administration's Highway Traffic Noise: Analysis and Abatement Guide (see reference), a traffic noise model is considered validated if the measured and calculated noise impacts differ by three decibels or fewer. No adjustment was deemed necessary to model future noise levels for this noise model as the difference between the measured and calculated levels was found to be less than three decibels. The traffic noise model is assumed to be representative of actual traffic noise that is experienced on site. This information is presented in Table 2.

Table 2. Calculated versus Measured Traffic Noise Data				
Calibration Receiver Position	**Calculated**	**Measured**	**Difference**	**Correction**
35 feet from State St CL, 43 feet from Crows Nest Pl CL	75.9 dBA L_{EQ}	76.5 dBA L_{EQ}	0.6 dB	None applied

3.2 Future Noise Environment

3.2.1 Operational Noise Impacts

The primary sources of noise generated by the proposed project are anticipated to be the proposed vehicular and HVAC equipment.

The factory will incorporate multiple vehicles on site. Noise levels for typical equipment were provided by DEFRA as octave band noise levels. Noise levels are shown in Table 3.

Table 3. Sound Power Level of Proposed Vehicular Equipment									
Source	Sound Power Level at Octave Band Frequency (dB)								Total (dBA)
	63	125	250	500	1K	2K	4K	8K	
Forklift	114.6	108.6	98.6	96.6	93.6	91.6	85.6	76.6	100.1
Delivery Truck	111.8	111.8	100.8	102.8	98.8	96.8	95.8	87.8	105.3

Additionally, noise measurements made by Eilar Associates of a truck backup alarm were incorporated into calculations (76.0 dBA at 50 feet).

HVAC units for the office spaces are proposed to be split-system units manufactured by Mitsubishi. Noise levels for this equipment were provided by the manufacturer as broadband, A-weighted noise levels of 58 dBA at one meter from the outdoor unit. No octave band data has been given for the HVAC unit, and therefore, octave band noise levels of a similar HVAC unit have been used to estimate the spectral content of the Mitsubishi MXZ-5C42NA2. Noise levels are shown in Table 4, and manufacturer data sheets are provided in Appendix D.

Table 4. Sound Power Levels of Mitsubishi MXZ-5C42NA2 (Split-System Unit)									
Source	Sound Power at Octave Band Frequency (dBA)								Total (dBA)
	63	125	250	500	1K	2K	4K	8K	
Mitsubishi MXZ-5C42NA2	47.9	56.5	61.5	60.4	60.6	57.3	50.6	45.5	77.6

HVAC units for the factory and storage buildings are proposed to be supply fans manufactured by Canarm. Noise levels for this equipment were not provided by the manufacturer, and therefore, octave band noise levels of a similar supply fan unit have been used to estimate the spectral content of the Canarm P24-1RS9M115. Noise levels are shown in Table 5, and manufacturer data sheets are provided in Appendix D.

Table 5. Sound Power Levels of Canarm P24-1RS9M115 Supply Fan									
Source	Sound Power at Octave Band Frequency (dB)								Total (dBA)
	63	125	250	500	1K	2K	4K	8K	
Canarm P24-1RS9M115	79	82	79	76	72	69	65	60	78

Operational noise levels have been calculated for the project site using the above information. Results of this analysis are provided in Section 5.3.1.

3.2.2 Project-Generated Traffic

A traffic impact study conducted by Ganddini Group, Inc. shows traffic volumes generated by the proposed project and the distribution of these trips on surrounding roadways. The impacts of project-generated traffic noise have been assessed using these trip generation values and the existing traffic volumes for surrounding roadways. Cumulative traffic volumes for other anticipated projects to be constructed in the vicinity of the project site have also been provided in the traffic study and allow for the evaluation of cumulative traffic noise impacts. Project traffic volumes and the analysis of project-generated traffic noise is provided in Section 5.1.2.

3.2.3 Temporary Construction Equipment

In order to evaluate anticipated temporary construction noise impacts, information from the project applicant regarding stages of construction and equipment is to be used. The equipment listed in Table 6 is typical of what is expected to be used on site based on professional experience and the information provided. Unless otherwise noted, all noise levels have been provided by the UK Department for Environment, Food and Rural Affairs (DEFRA) (see reference). Duty cycle information was taken from the Federal Highway Administration.

Table 6. Anticipated Construction Stages and Equipment Noise Levels

Construction Stage	Equipment	Duty Cycle (%)	Noise Level, at 50 feet (dBA)
Utilities and Grading	Small Dozer	40	74
	Dozer	40	76
	Backhoe[1]	40	74
	Water Truck[1]	40	77
Foundation	Concrete Pump Truck	20	74
Installation of Buildings	Pickup Trucks	40	76
	Crane	16	66
Paving	Asphalt Paver	50	71
	Roller[1]	20	74
	Pickup Trucks	40	76

[1]Source: Noise measurements made by Eilar Associates on 3/25/2010 for Brutoco Engineering & Construction, Inc. for the Orange Line Extension Project, Metro Contract #C0943, City of Los Angeles.

These noise levels have been incorporated into the temporary construction noise analysis for the site, provided in Section 5.2.

4.0 METHODOLOGY AND EQUIPMENT

4.1 Methodology

4.1.1 Field Measurement

Typically, a “one-hour” equivalent sound level measurement (L_{EQ}, A-Weighted) is recorded for at least one noise-sensitive location on the site. During the on-site noise measurement, start and end times are recorded, vehicle counts are made for cars, medium trucks (double-tires/two axles), and heavy trucks (three or more axles) for the corresponding road segment(s). Supplemental sound measurements of one hour or less in duration are often made to further describe the noise environment of the site.

For measurements of less than one hour in duration, the measurement time is long enough for a representative traffic volume to occur and the noise level (L_{EQ}) to stabilize. The vehicle counts are then converted to one-hour equivalent volumes by applying an appropriate factor. Other field data gathered include measuring or estimating distances, angles-of-view, slopes, elevations, roadway grades, and vehicle speeds. This information is subsequently verified using available maps and records.

4.1.2 Roadway Noise Calculation

The Traffic Noise Model (TNM) calculation protocol in Cadna Version 2019 (based on the methodology used in TNM Version 2.5, released in February 2004 by the U.S. Department of Transportation) was used for all traffic modeling in the preparation of this report. Using the TNM protocol, the CNEL is calculated as 0.092 times the ADT for surrounding roadways, based on the studies made by Wyle Laboratories (see reference). CNEL is calculated for desired receptor locations using road alignment, elevations, lane configurations, projected traffic volumes, estimated truck mixes, and vehicle speeds. Noise attenuation methods may be analyzed, tested, and planned with Cadna, as required.

In order to determine the estimated traffic volumes of roadways during the traffic noise measurement made on site for model calibration, the approximate percentage of the Average Daily Trips (ADT) value for the time period in which the measurement is made is incorporated into the traffic model. These percentages have been established in a study performed by Katz-Okitsu and Associates, Traffic Engineers (see reference). For purposes of calibrating the Cadna TNM, 6.2% of the ADT values for the current environment were used in calculations (for roadways that were not manually counted) to account for traffic between the hours of 11 a.m. and 12 p.m. in the vicinity of the project site.

4.1.3 Cadna Noise Modeling Software

Modeling of the outdoor noise environment is accomplished using Cadna Version 2019, which is a model-based computer program developed by DataKustik for predicting noise impacts in a wide variety of conditions. Cadna (Computer Aided Noise Abatement) assists in the calculation, presentation, assessment, and alleviation of noise exposure. It allows for the input of project information such as noise source data, barriers, structures, and topography to create a detailed model and uses the most up-to-date calculation standards to predict outdoor noise impacts. Noise standards used by Cadna that are particularly relevant to this analysis include ISO 9613 (Attenuation of sound during propagation outdoors). Cadna provides results that are in line with basic acoustical calculations for distance attenuation and barrier insertion loss.

4.1.4 Formulas and Calculations

Decibel Addition

To determine the combined logarithmic noise level of two known noise source levels, the values are converted to the base values, added together, and then converted back to the final logarithmic value, using the following formula:

$$L_C = 10\log(10^{L1/10} + 10^{L2/10} + 10^{LN/10})$$

where L_C = the combined noise level (dB), and
L_N = the individual noise sources (dB).

This procedure is also valid when used successively for each added noise source beyond the first two. The reverse procedure can be used to estimate the contribution of one source when the contribution of another concurrent source is known and the combined noise level is known. These methods can be used for L_{EQ} or other metrics (such as L_{DN} or CNEL), as long as the same metric is used for all components.

Sound Power to Sound Pressure

To convert sound power levels to sound pressure levels, the following formula is used:

$$SPL = SWL - 20\log(D) - 0.5$$

where: SPL= Calculated sound pressure level at distance, and
D = Distance from source to location of calculated sound pressure level, measured in feet.

Distance Attenuation

Attenuation due to distance is calculated by the equation:

$$SPL_2 = SPL_1 - 20\log(\frac{D_2}{D_1})$$

where SPL_1 = Known sound pressure level at known distance,
SPL_2 = Calculated sound pressure level at distance,
D_1 = Distance from source to location of known sound pressure level, and
D_2 = Distance from source to location of calculated sound pressure level.

This is identical to the more commonly used reference of 6 dB reduction for every doubling of distance. This equation does not take into account reduction in noise due to atmospheric absorption.

Hourly L_{EQ} Summation

To determine the hourly average noise levels (L_{EQ}) when the noise is created for less than the full hour, convert the logarithm values to the base energy value, multiply by the percentage of the hour that the noise occurs, and then convert the sum back to a logarithmic value. This is done with the following formula:

$$L_{EQ} = 10\log(P_H \times 10^{L_P/10})$$

where P_H = the percent or fraction of the hour noise is created, and
L_P = the partial hour noise level (dB).

Project-Generated Traffic Noise Impacts

Changes in traffic noise levels can be predicted by inputting the ratio of the two scenarios into the following logarithmic equation:

$$\Delta = 10\log(V2/V1)$$

where: Δ= Change in sound energy,
V1 = original or existing traffic volume, and
V2 = future or cumulative traffic volume.

Construction Vibration Calculations

The construction vibration assessment contained herein is evaluated using calculations of peak particle velocity (PPV). PPV at receivers is calculated as follows:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where PPV_{equip} is the peak particle velocity (in inches per second) of the equipment, adjusted for distance,
PPV_{ref} is the reference vibration level (in inches per second) at a distance of 25 feet from the equipment, and
D is the distance from the equipment to the receiver.

Project-Generated Traffic Noise Impacts

Changes in traffic noise levels can be predicted by inputting the ratio of the two scenarios into the following logarithmic equation:

$$\Delta = 10\log(V2/V1)$$

where: Δ= Change in sound energy,
V1 = original or existing traffic volume, and
V2 = future or cumulative traffic volume.

4.2 Measurement Equipment

The following equipment was used at the site to measure existing noise levels:

- Larson Davis Model LxT Type 1 Integrating Sound Level Meter, Serial #4084
- Larson Davis Model CA250 Type 1 Calibrator, Serial #2106

The sound level meter was field-calibrated immediately prior to the noise measurement and checked afterward to ensure accuracy. All sound level measurements conducted and presented in this report, in accordance with the regulations, were made with a sound level meter that conforms to the American National Standards Institute specifications for sound level meters (ANSI S1.4). All instruments are maintained with National Bureau of Standards traceable calibration, per the manufacturers' standards.

5.0 NOISE IMPACTS

5.1 Permanent Project-Related Noise Impacts

5.1.1 Operational Noise

Noise levels from the proposed vehicles and HVAC units were calculated in Cadna for both Phase 1 and the completed project at the nearest properties using data presented in Section 3.2.1. As hours of operation are limited to the daytime period, nighttime noise limits have not been considered herein. Daytime noise limits have been applied as detailed in Section 2.3. Calculations consider shielding that would be provided by the proposed on-site structures. Hourly average noise level calculations also assume backup alarms would operate for one minute per hour, three on-site truck movements per hour, two on-site forklift movements per hour, and continuous HVAC equipment operation during hours of operation. For this reason, the analysis is considered to represent a conservative estimate of noise impacts at off-site receivers.

Tables 7 and 8 show the project-related operational noise impacts at surrounding receivers for Phase 1 and the completed project, respectively. Calculated noise impacts at the properties to the west and south are shown at the nearest noise-sensitive property lines. All receivers have been calculated at a height of five feet above grade. Additional information is provided in Appendix C: Cadna Analysis Data and Results. For a graphic showing noise source and receiver locations, please refer to Figures 5 and 6.

Table 7. Project-Related Operational Noise Impacts – Phase 1

Receiver	Description	Noise Limit (dBA)	Average Hourly Noise Level (dBA)	Max Noise Level Limit (dBA L_{MAX})*	Max Noise Level (L_{MAX})
R1	West Property Line	60	37.0	70	51.5
R2	South Property Line	60	49.6	70	65.1

*Max noise level limit evaluated as 70 dBA to account for simple tone noise of backup alarms.

Table 8. Project-Related Operational Noise Impacts – Completed Project

Receiver	Description	Noise Limit (dBA)	Average Hourly Noise Level (dBA)	Max Noise Level Limit (dBA L_{MAX})*	Max Noise Level (L_{MAX})
R1	West Property Line	60	50.2	70	65.9
R2	South Property Line	60	52.4	70	66.4

*Max noise level limit evaluated as 70 dBA to account for simple tone noise of backup alarms.

As shown above, noise levels at adjacent property lines are anticipated to comply with the applicable daytime noise limits of the City of Hemet for both Phase 1 and the completed project, as currently designed. For these reasons, no additional project design features are deemed necessary to reduce noise impacts from on-site operational activity.

5.1.2 Project-Generated Traffic Noise

An analysis of the potential change in traffic noise levels to the surrounding area has been evaluated based on traffic projections in the Ganddini Group, Inc., traffic study. The project's impacts have been evaluated to determine whether a direct or cumulative impact will result. A significant direct impact occurs when project traffic combines with existing traffic and causes a doubling of sound energy, which is an increase of 3 dB. Direct impacts are assessed by comparing existing traffic volumes to existing plus project traffic volumes using the calculation methodology shown in Section 4.1.4. A cumulative impact may occur when project traffic combines with traffic generated by other proposed projects in the area and causes an increase of 3 dB. Cumulative impacts are assessed by comparing existing traffic volumes to existing plus project plus cumulative traffic volumes using the methodology detailed herein. In cases where a cumulative impact is identified, the project's contribution can be considered "cumulatively considerable" if the proposed project accounts for more than a one decibel increase to cumulative noise levels. A cumulatively considerable impact can be identified by comparing existing plus cumulative traffic volumes to existing plus cumulative plus project traffic volumes using the methodology detailed herein. Project-generated traffic noise increases are shown in Table 9.

Table 9. Anticipated Traffic Noise Increases with Project-Generated Traffic

Road	Segment	Traffic Volume (ADT)			Noise Level Increase (dB)	
		Existing	Project	Cumulative	Direct	Cumulative
State Street	North of Esplanade	21,200	290	3,200	0.1	0.7
	Between Esplanade and Crows Nest	20,000	840	4,300	0.2	1.0
	Between Le Crows Nest and Fruitvale	19,600	990	4,200	0.2	1.0
	Between Fruitvale and Menlo	20,500	930	4,200	0.2	1.0
	Between Menlo and Devonshire	18,000	660	6,500	0.2	1.5
	Between Devonshire and Florida	16,800	540	6,900	0.1	1.6
	South of Florida	11,500	290	5,200	0.1	1.7
Esplanade Avenue	West of State Street	16,500	300	1,600	0.1	0.5
	East of State Street	19,700	240	1,600	0.1	0.4
Crows Nest Place	West of State Street	200	1,200	0	**8.8**	**8.8**
Fruitvale Avenue	West of State Street	2,600	60	700	0.1	1.1
	East of State Street	1,600	0	200	0.0	0.5

Table 9. Anticipated Traffic Noise Increases with Project-Generated Traffic						
Road	Segment	Traffic Volume (ADT)			Noise Level Increase (dB)	
		Existing	Project	Cumulative	Direct	Cumulative
Menlo Avenue	West of State Street	8,300	110	2,300	0.1	1.1
	East of State Street	10,000	170	1,400	0.1	0.6
Devonshire Avenue	West of State Street	5,200	60	300	0.0	0.3
	East of State Street	3,100	60	200	0.1	0.3
Florida Avenue	West of State Street	30,100	160	5,900	0.0	0.8
	East of State Street	29,900	90	3,900	0.0	0.5

As shown in Table 9, no direct or cumulative impacts are anticipated to cause theoretical increases of three decibels or greater, with the exception of Crows Nest Place. In order to determine actual increases in noise impacts, existing traffic noise levels were evaluated at off-site receivers and compared to traffic noise levels anticipated with the increase in traffic volumes on surrounding roadways. Table 10 below shows the results of these calculations.

Table 10. Anticipated Traffic Noise Increases with Project-Generated Traffic at Nearby Receivers				
Receiver	Description	Existing Noise Level (CNEL)	Existing + Project Noise Level (CNEL)	Noise Level Increase (dB)
R1	West Property Line	45.6	45.9	0.3
R2	South Property Line	51.7	52.7	1.0

As shown in Table 10, no direct impacts are anticipated to result from project traffic at nearby sensitive receivers resulting from the increase in traffic volumes on Crows Nest Place. For this reason, project-generated traffic noise levels are considered to be less than significant.

5.2 Temporary Construction Noise Impacts

According to the City of Hemet Municipal Code, grading activity is permitted from June 1 through September 30 on Monday through Friday between the hours of 6 a.m. and 6 p.m. and between the hours of 7 a.m. and 6 p.m. from October 1 to May 31. Grading is prohibited on Saturdays between the hours of 6 p.m. and 7 a.m. and Sundays, year-round. Although the City of Hemet does not have specific noise limits for temporary construction activity, a typically applied threshold for construction noise is 75 dBA. This noise limit has been applied to activity on the proposed project site to assess the significance of construction noise impacts.

Noise levels were calculated at residential receivers to the south, as any other off-site receivers are located at a greater distance from the project site, and therefore, would be exposed to lesser noise impacts. Construction noise sources were placed near the center of various work areas on the western portion of the site to evaluate typical impacts to these receivers as equipment moves around the property during the worst-case phases of construction. Depending on the stage of construction, the approximate center of work is expected to be located roughly 115 to 300 feet from the nearest sensitive receiver location. Noise calculations consider typical duty cycles of equipment to account for periods of activity and inactivity on the site.

Calculated construction noise impacts during worst-case phases of construction are shown in Table 11. A graphical representation of evaluated source and receiver locations is shown in Figure 7. Please refer to Appendix E for additional information.

Table 11. Temporary Construction Noise Levels at Nearest Residential Receivers (South)			
Stage (Source Location)	**Receiver**	**Equipment**	**Average Noise Level (dBA)**
Utilities and Grading (S1)	C1	Small Dozer, Dozer, Backhoe, Water Truck	67.9
Foundation (S2)	C2	Concrete Pump Truck	59.8
Building Installation (S2)	C2	Pickup Trucks, Crane	72.6
Paving (S3)	C2	Asphalt Paver, Roller, Pickup Trucks	62.3

As shown in Table 11, based on the typical noise levels and duty cycles of construction equipment, average noise levels are anticipated to remain below 75 dBA at the nearest residential property lines during the worst-case phases of construction. Any other noise-sensitive receivers are located at a greater distance from on-site activity, and therefore, would be exposed to lesser noise levels.

Despite the fact that noise impacts are expected to remain in compliance with typically accepted construction noise limits, the following “good practice” measures should still be practiced as a courtesy to residential neighbors:

1. Staging areas should be placed as far as possible from residential receivers.

2. Place stationary equipment in locations that will have a lesser noise impact on nearby sensitive receivers.

3. Turn off equipment when not in use.

4. Limit the use of enunciators or public address systems, except for emergency notifications.

5. Equipment used in construction should be maintained in proper operating condition, and all loads should be properly secured to prevent rattling and banging.

6. Schedule work to avoid simultaneous construction activities that both generate high noise levels.

7. Use equipment with effective mufflers.

8. Minimize the use of backup alarms.

With operating hours limited to those permitted by the City of Hemet and adherence to the general good practice construction noise control techniques, temporary construction noise impacts are expected to be less than significant at surrounding properties.

5.3 CEQA Significance Determination

Noise impacts from the project site are summarized below and classified per the noise portion of the CEQA Environmental Checklist form. This list summarizes conclusions made within the report and classifies the level of significance as: Potentially Significant Impact, Less than Significant with Mitigation Incorporated, Less than Significant Impact, or No Impact. *Italics* are used to denote language from the CEQA Environmental Checklist form.

XII. NOISE—Would the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact. Operational noise impacts calculated in Section 5.1.1 are not expected to generate a substantial permanent increase in ambient noise levels in the vicinity of the project site, and would comply with the noise limits of the City of Hemet Public Safety Element to the General Plan, as designed. The impact of permanent project-related noise sources would therefore be less than significant.

Additionally, as demonstrated in Section 5.1.2 of this report, noise impacts from project-generated traffic are not expected to cause a significant direct increase or a cumulatively considerable increase on any surrounding roadway. This impact is also considered to be less than significant.

As shown in Section 5.2 of this report, noise from temporary construction is expected to be less than significant considering a typical construction schedule. Noise impacts from anticipated construction activity are expected to remain below the applicable construction noise limits set by the City of Hemet. Additionally, no construction activity will take place during the more sensitive nighttime hours when ambient noise levels tend to be lower, as per City of Hemet Municipal Code requirements. For these reasons, this impact is deemed to be less than significant.

As demonstrated above, the project is not expected to cause a substantial permanent or temporary increase in ambient noise levels, and therefore, this impact can be classified as less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. The grading stage of construction has the potential to generate the highest vibration levels of the four phases, as grading activities would take place closest to residential receivers and would consist of the use of loaded trucks. According to the Federal Transit Administration Transit Noise and Vibration Assessment Manual (see reference), a loaded truck generates a peak particle velocity (PPV) of approximately 0.076 inches/second at a distance of 25 feet from equipment. The evaluation of an impact's significance can be determined by reviewing both the likelihood of annoyance to individuals as well as the potential for damage to existing structures. According to the Caltrans Transportation and Construction Vibration Guidance Manual (see reference), the appropriate threshold for damage to modern residential structures is a

PPV of 0.5 inches/second. Annoyance is assessed based on levels of perception, with a PPV of 0.01 being considered "barely perceptible," 0.04 inches/second as "distinctly perceptible," 0.1 inches/second as "strongly perceptible," and 0.4 inches/second as "severe."

It is estimated that the nearest location to sensitive receptors would be approximately 25 feet from the nearest residential structure, when trucks are used near the southern boundary of the site. At this distance, the PPV would be 0.076 inches/second. This level of vibration falls well below the building damage PPV criteria of 0.5 inches/second. The impact falls between the "barely perceptible" and "distinctly perceptible" PPV criteria for annoyance; however, vibration would be reduced to "barely perceptible" levels by the time the trucks are located at a distance of 100 feet from receivers. As construction vibration is not anticipated to cause damage to off-site buildings and will be less than the "barely perceptible" vibration threshold for the majority of construction, it is the opinion of the undersigned that temporary construction vibration impacts would not be "excessive," and therefore, are less than significant. Please refer to Appendix E for additional information.

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?

No Impact. The project site is not located within an airport land use plan nor is it located within two miles of a private airstrip, public airport, or public use airport. Therefore, the proposed project would not expose people working in the project area to excessive noise levels from such uses.

6.0 CONCLUSION

Noise from the anticipated operational equipment and activities on site has been calculated to determine impacts at off-site receivers. Calculations show that noise levels from project operation will be in compliance with the City of Hemet noise regulations for daytime hours found within the General Plan. No factory operations are proposed to occur outside of daytime hours. No project design features are deemed necessary to control project-generated noise impacts from project operation. Project-generated traffic noise is also expected to be less than significant at off-site receivers.

Noise levels from temporary construction activities associated with this project are expected to comply with the applicable City of Hemet construction noise limits at all surrounding property lines, with activity limited to the hours of 6 a.m. and 6 p.m. from June 1 through September 30 and the hours of 7 a.m. and 6 p.m. from October 1 to May 31 on Monday through Friday. Grading is prohibited on Saturdays between the hours of 6 p.m. and 7 a.m. and Sundays, year-round. The general good practice construction noise control methods listed herein should be followed, as a courtesy to surrounding properties.

The proposed project is not expected to result in any potentially significant noise impacts by the standards of the California Environmental Quality Act (CEQA). Noise impacts are summarized in Section 5.3.

7.0 CERTIFICATION

All recommendations for noise control are based on the best information available at the time our consulting services are provided. However, as there are many factors involved in sound transmission, and Eilar Associates has no control over the construction, workmanship, or materials, Eilar Associates is specifically not liable for final results of any recommendations or implementation of the recommendations.

This report is based on the related project information received and on measured noise levels, and represents a true and factual analysis of the acoustical impact issues associated with the S2A Modular Factory project, to be located in the City of Hemet, California. This report was prepared by Rachael Cowell and Amy Hool.

Rachael Cowell, Acoustical Consultant

Amy Lynn Hool

Amy Hool, President/CEO

8.0 REFERENCES

1. City of Hemet Public Safety Element to the General Plan, Adopted January 24, 2012.

2. City of Hemet Municipal Code, Chapter 67-10: Time of grading operations.

3. California Environmental Quality Act (CEQA), Statute and Guidelines, 2018.

4. Ganddini Group, Inc., S2A Modular Manufacturing Traffic Impact Analysis, August 2019.

5. Federal Highway Administration, Highway Traffic Noise: Analysis and Abatement Guide, December 2011.

6. Department for Environment Food and Rural Affairs (DEFRA), Update of Noise Database for Prediction of Noise on Construction and Open Sites, 2005.

7. U.S. Department of Transportation Federal Highway Administration, Construction Noise Handbook, Construction Equipment Noise Levels and Ranges.

8. DataKustik, CadnaA (Computer Aided Noise Abatement), Version 2020.

9. Wyle Laboratories, Development of Ground Transportation Systems Noise Contours for the San Diego Region, December 1973.

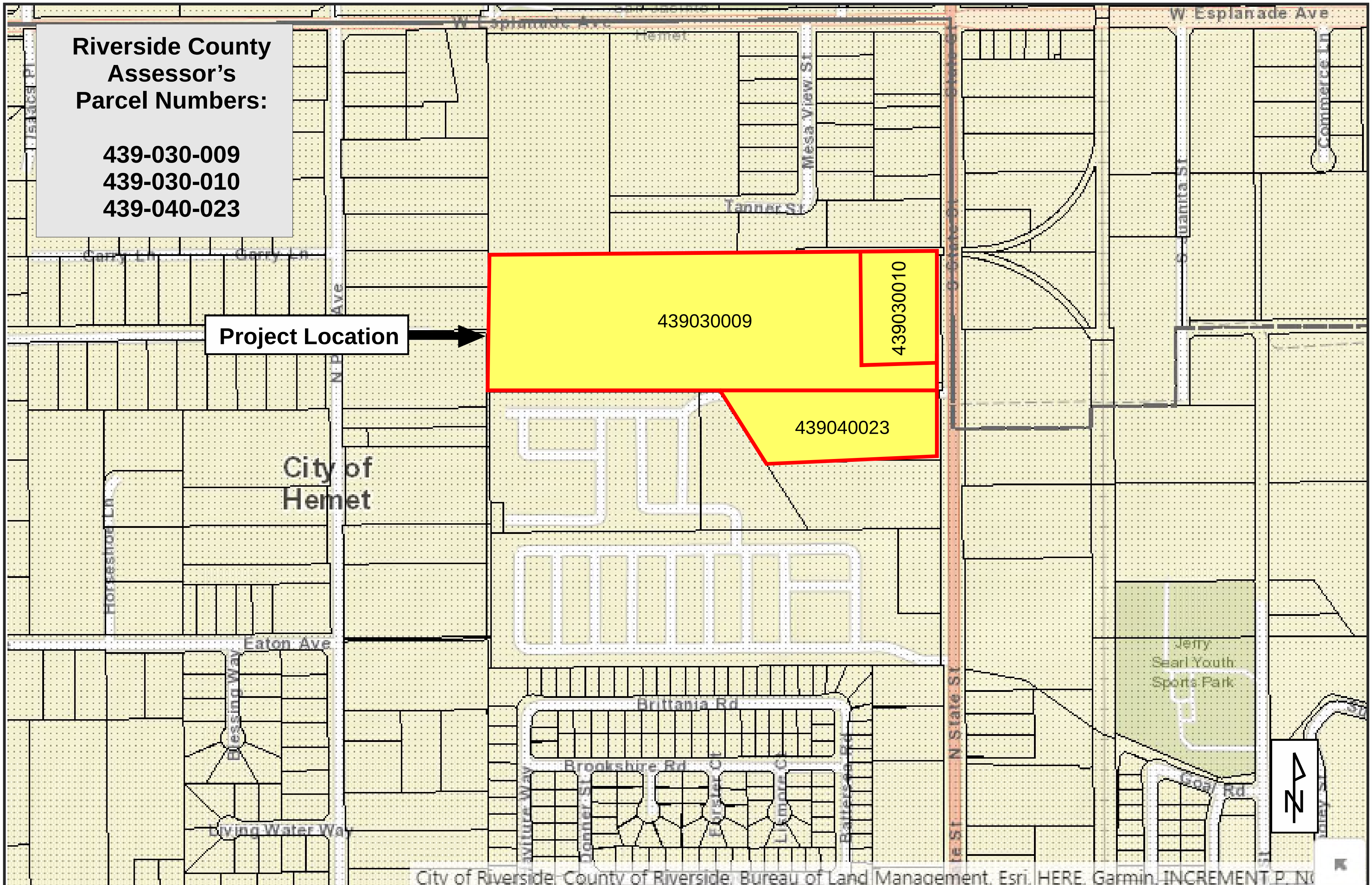
10. Katz-Okitsu and Associates Traffic Engineers, Traffic Distribution Study, 1986.

11. Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment, May 2006.

12. California Department of Transportation (Caltrans), Transportation and Construction Vibration Guidance Manual, September 2013.

FIGURES

Eilar Associates, Inc. 210 South Juniper Street, Suite 100 Escondido, California 92025 760-738-5570	**Vicinity Map** **Job # S190701**	**Figure 1**

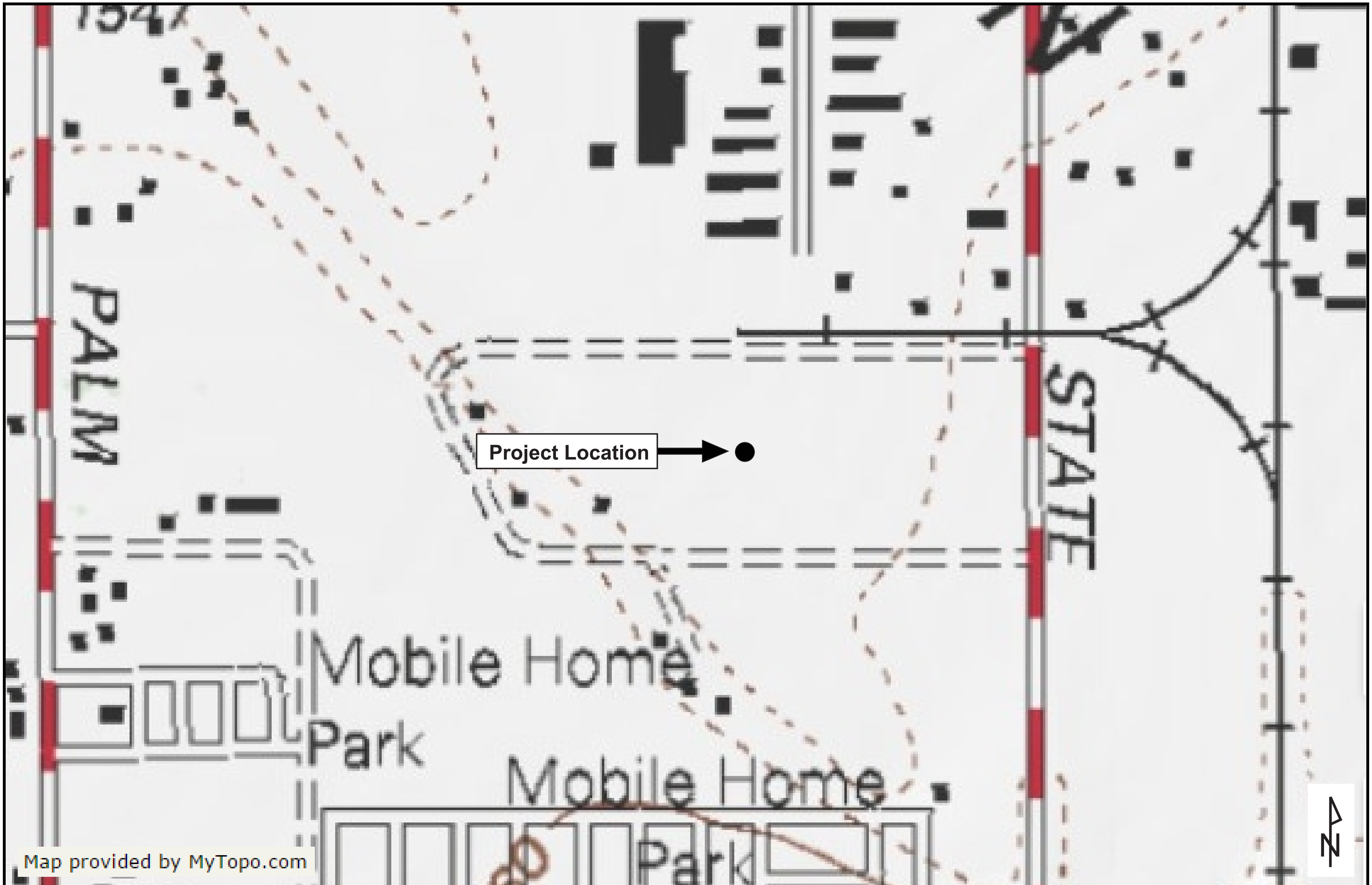


Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025
760-738-5570

Assessor's Parcel Map
Job # S190701

Figure 2

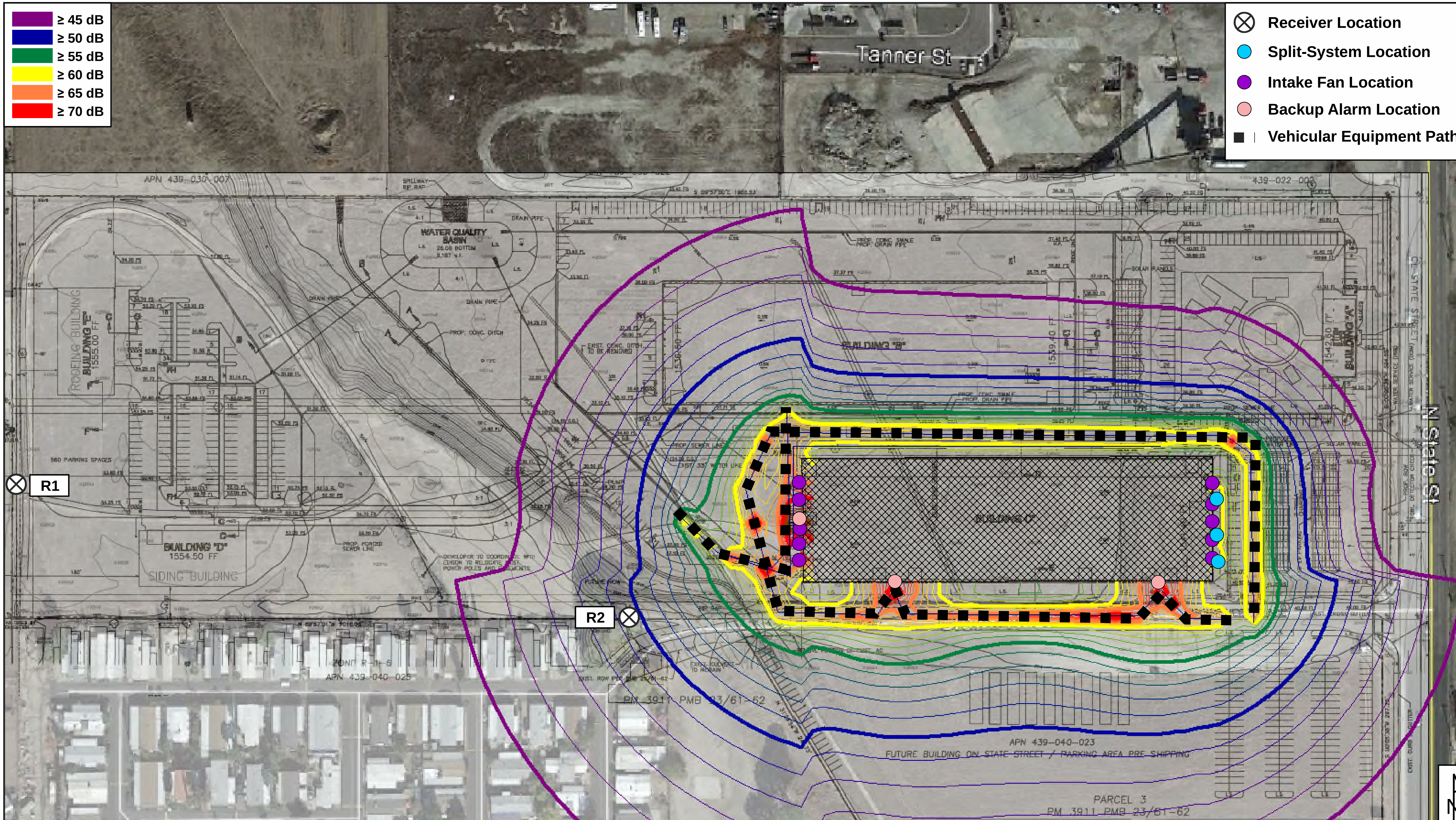
Eilar Associates, Inc. 210 South Juniper Street, Suite 100 Escondido, California 92025 760-738-5570	**Satellite Aerial Photograph Showing Noise Measurement Location** **Job # S190701**	**Figure 3**



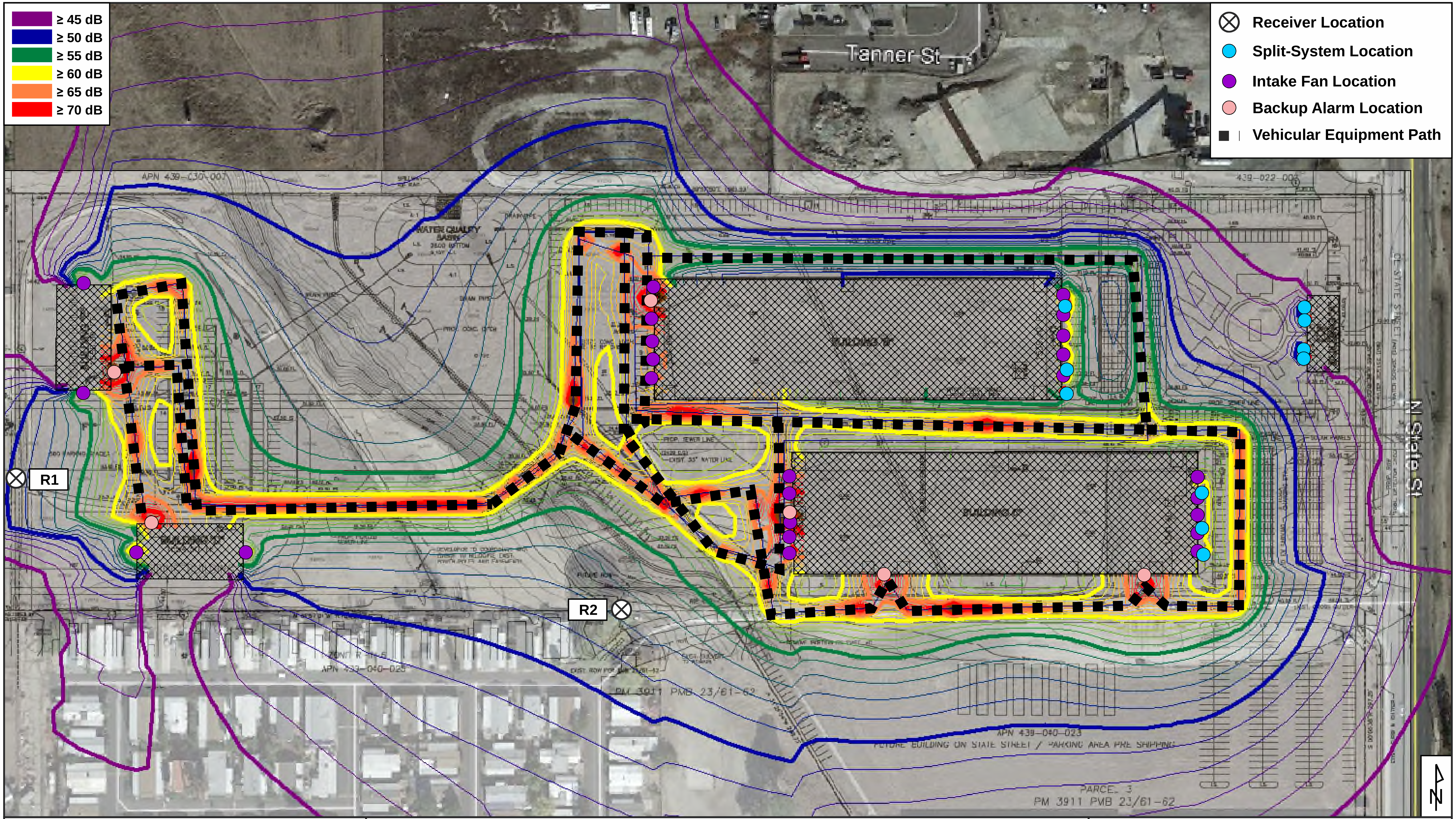
Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025
760-738-5570

Topographic Map
Job # S190701

Figure 4



Eilar Associates, Inc. 210 South Juniper Street, Suite 100 Escondido, California 92025 760-738-5570	Satellite Aerial Photograph Showing Mechanical Equipment Noise Contours and Receiver Locations - Phase 1 Job # S190701	Figure 5



Eilar Associates, Inc. 210 South Juniper Street, Suite 100 Escondido, California 92025 760-738-5570	**Satellite Aerial Photograph Showing Mechanical Equipment Noise Contours and Receiver Locations - Completed Project** **Job # S190701**	**Figure 6**

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025
760-738-5570

Satellite Aerial Photograph Showing Construction Noise Source and Receiver Locations
Job # S190701

Figure 7

APPENDIX A

Project Plans

CITY OF HEMET
PLOT PLAN

LOT 5 AND PORTION OF LOT 4 OF MESA TERRACE TRACT, IN THE CITY OF HEMET, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 8 PAGE 46 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

SAKE ENGINEERS, INC. **AUGUST 2019**

ZONING AND LAND USE:

EXIST. ZONING ________ COMMERCIAL–MANUFACTURING
PROP. ZONING ________ COMMERCIAL–MANUFACTURING
EXIST. LAND USE ________ VACANT
PROP. LAND USE ________ COMMERCIAL–MANUFACTURING

ASSESSORS PARCEL NO.:

439–030–009, 439–030–010, 439–040–023

TOTAL ACREAGE:

TOTAL ACREAGE (GROSS) ______ 32.1 AC.
DISTRUBED AREA ______ 21 AC.
IMPERVIOUS AREA ______ 16.42 AC.
PERVIOUS AREA ______ 15.68 AC.
TOTAL NO. OF PARKING ______ ~~720~~

EASEMENT NOTES:

1. DECLARATION OF DEDICATION PER INST. NO. 136701 REC. 12/06/1965 O.R.
2. CL OF 10' WIDE EASEMENT IN FAVOR OF SO. CAL EDISON CO. PER INST. NO. 106260 REC. 10/28/1966. O.R.
3. EASEMENT IN FAVOR OF SO. CAL. EDISON CO. PER INST. NO. 46421 REC. 05/29/1967. O.R.
4. 5' WIDE EASEMENT FOR WATER PIPE LINE AND UTILITIES
5. AN EASEMENT IN FAVOR OF CALIFORNIA WATER AND TELEPHONE CO. PER BK. 1604 PG 231 IS NOT, PLOTTABLE FROM THE RECORD.
6. EASEMENT IN FAVOR OF EASTERN MUNICIPAL WATER DISTRICT PER BK. 3726 PG.565–568. O.R.
7. EASEMENT IN FAVOR OF EASTERN MUNICIPAL WATER DISTRICT PER INST. 108484 REC. 06/11/1981.

BUILDING SQUARE FOOTAGE

BUILDING "A" ________ 4,959 S.F.
BUILDING "B" ________ 101,355 S.F.
BUILDING "C" ________ 101,355 S.F.
BUILDING "D" ________ 12,000 S.F.
BUILDING "E" ________ 12,000 S.F.
TOTAL SQUARE FOOTAGE __ 231,669 S.F.

BUILDING USE

BUILDING "A" ____ OFFICES/SHOWRROOM
BUILDING "B" ____ OFFICES/SHOWRROOM
BUILDING "C" ____ OFFICES
BUILDING "D" ____ HEMP R & D STUCCO/PANELS
BUILDING "E" ____ HEMP R & D DRY WALL MUD

BASIS OF ELEVATION:

BM# H 8 3 RESET AT THE SW CORNER OF SEVENTH ST. AND STATE ST.

ELEV = 467.17'

EMERGENCY PHONE NUMBERS:

CITY OF HEMET FIRE DEPARTMENT ______ (951) 765–2464
CITY OF HEMET POLICE DISPATCH ______ (951) 765–2400
CITY OF HEMET TRAFFIC SIGNALS ______ (951) 675–3710
HEMET UNIFIED SCHOOL DISTRICT ______ (951) 765–5100
UNDERGROUND ALERT SERVICE ______ 811
MISSION AMBULANCE ______ (951) 654–2746
FRONTIER TELEPHONE ______ (800) 921–8101
SOUTHERN CALIFORNIA EDISON COMPANY ______ (800) 655–4555
SOUTHERN CALIFORNIA GAS COMPANY ______ (800) 427–2200

BASIS OF BEARING:

CALIFORNIA STAE PLANE COORDINATE SYSTEM
ZZONE 6

FLOOD ZONE:

ZONE X, 06065C1488H
EFFECTIVE 4–19–2017

UTILITIES:

ELECTRIC ________ SO. CAL. EDISON COMPANY (800) 655–4555 PH.
GAS ________ THE GAS COMPANY (800) 427–2200 PH.
WATER ________ EMWD (951) 928–3777 PH.
SEWER ________ EMWD (951) 928–3777 PH.
TELEPHONE ________ FRONTIER (800) 921–8101 PH.
CABLE ________ SPECTRUM CABLE (855) 427–0190 PH.

LEGAL DESCRIPTION:

LOT 5 AND PORTION OF LOT 4 OF MESA TERRACE TRACT, IN THE CITY OF HEMET, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 8 PAGE 46 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EARTHWORK:

CUT ________ 0± C.Y.
FILL ________ 0± C.Y.
IMPORT ________ 0± C.Y.

NOTE:

EARTH QUANTITIES SHOWN HERE ARE FOR RAW ESTIMATING PLAN CHECK FEES ONLY. GRADING CONTRACTOR IS RESPONSIBLE TO PERFORM THEIR OWN CALCULATIONS FOR EARTH VOLUME WITH THE SOILS ENGINEER'S RECOMMENDATION.

OWNER/DEVELOPER:

SSS GROUP, A CALIFORNIA PARTNERSHIP
MICHAEL A. GIURBINO AND
SUZANNE E. GIURBINO
MURRIETA, CA 92562
CONTACT: JOHN ROWLAND
(951) 760 4887 PH.
MVPOPTICS@AOL.COM

ENGINEER:

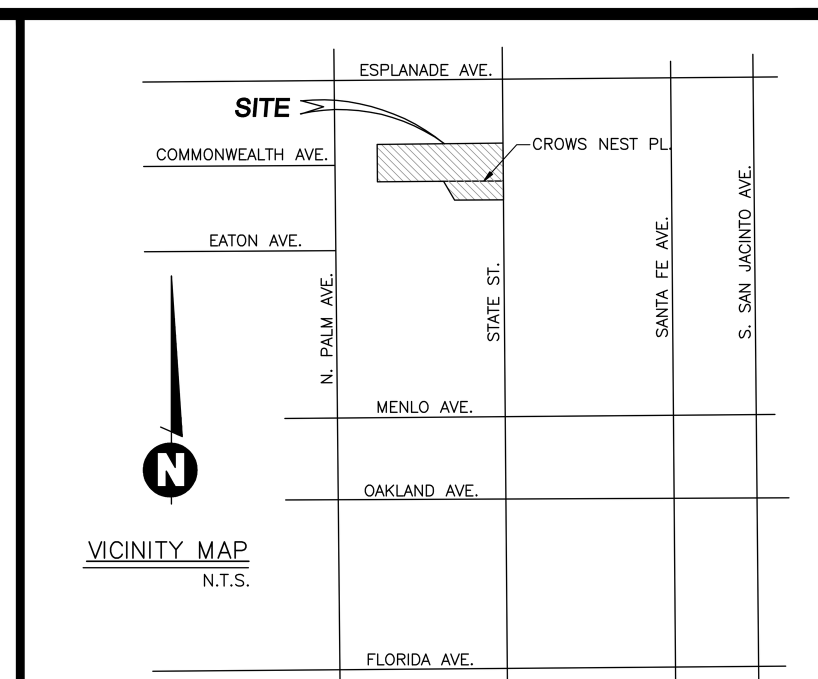
SAKE ENGINEERS INC.
400 S. RAMONA AVE. STE. 202
CORONA, CA 92879
(951) 279–4041 PH.
(951) 279–2830 FAX

SOIL ENGINEER:

SOIL EXPLORATION COMPANY, INC.
7535 JURUPA AVE. UNIT C
RIVERSIDE, CA 92504
(951) 688–7200 PH.
(951) 688–7100 FAX

TOPOGRAPHY:

LANDMARK SURVEYING
14586 CHOKE CHERRY DRIVE
VICTORVILLE, CA 92392
(760) 955–4141 PH.

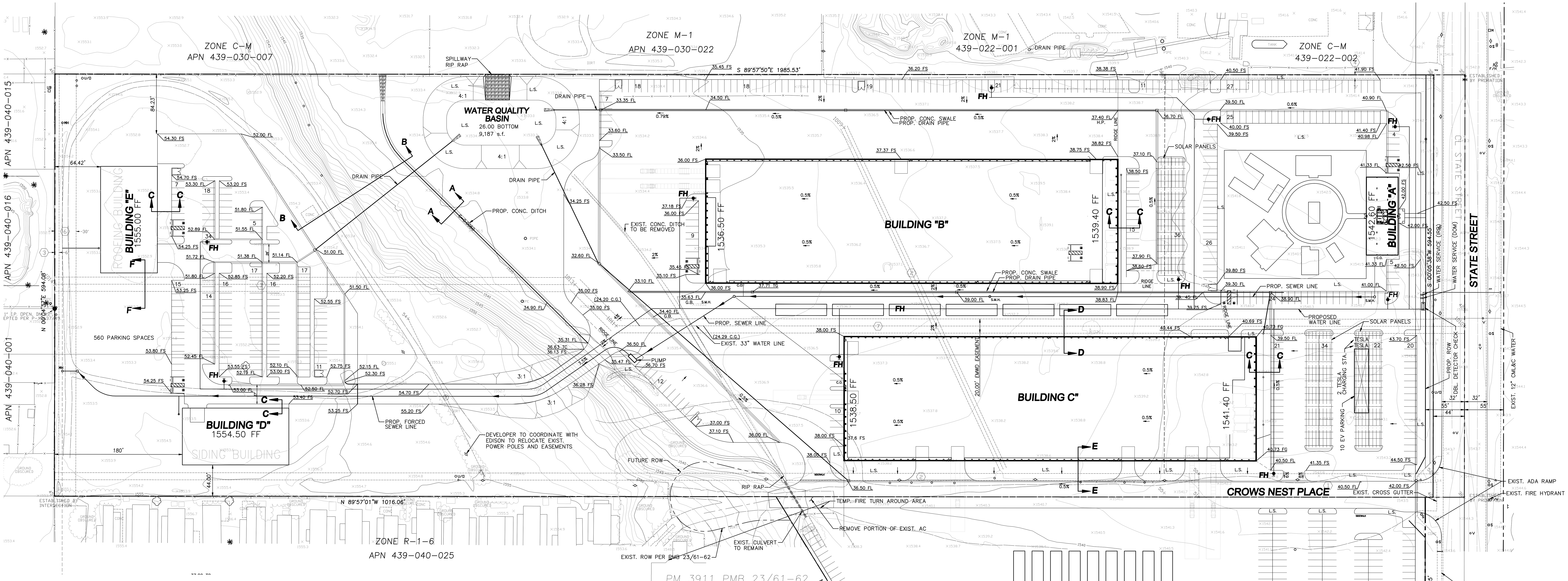


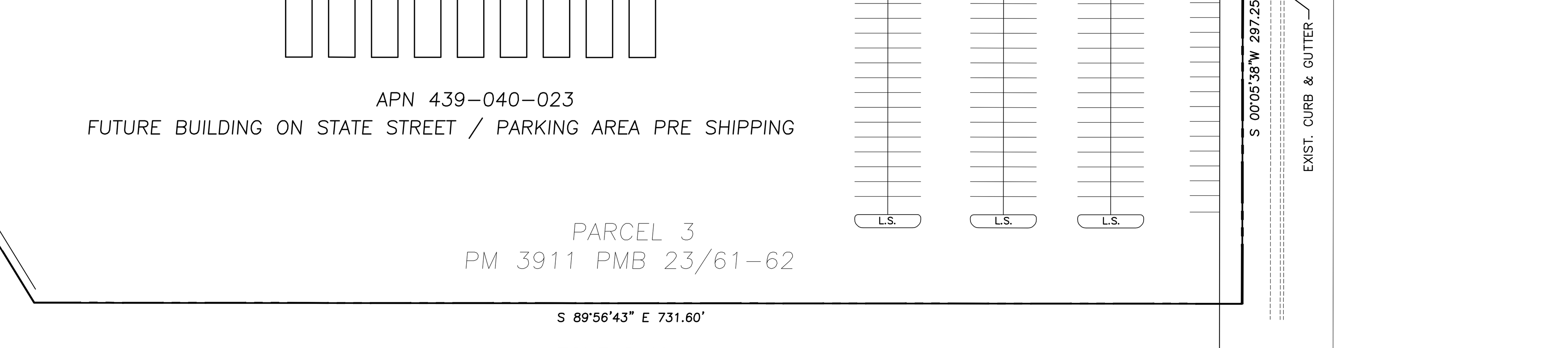
VICINITY MAP
N.T.S.

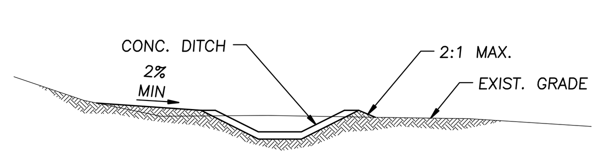
THOMAS BROTHERS MAP PAGE/GRID:

PAGE: 810 GRID: J4 2004 EDITION
PAGE: 811 GRID: A4 2004 EDITION

SEC 3, T.5S, R.1W







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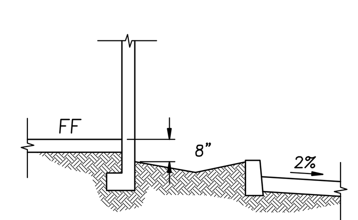

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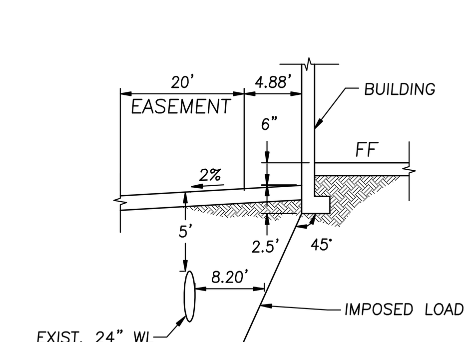

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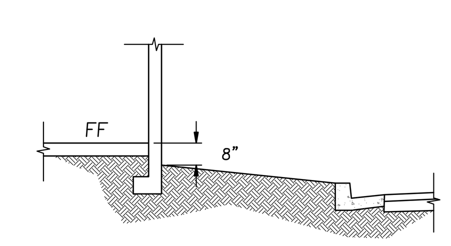

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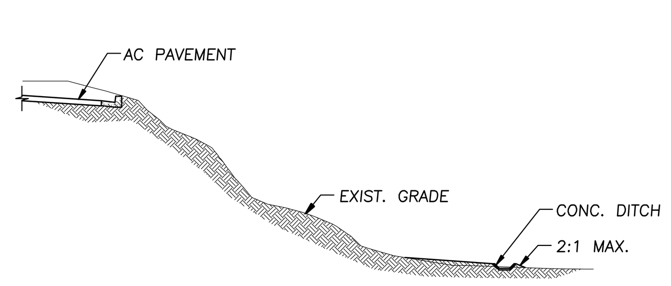

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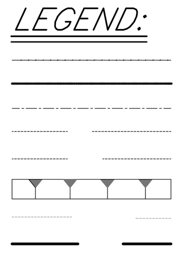
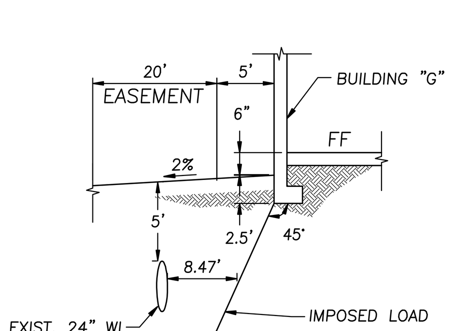
NTS

LEGEND:





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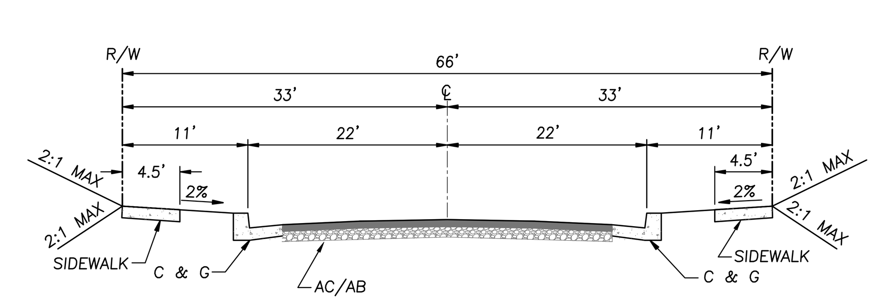
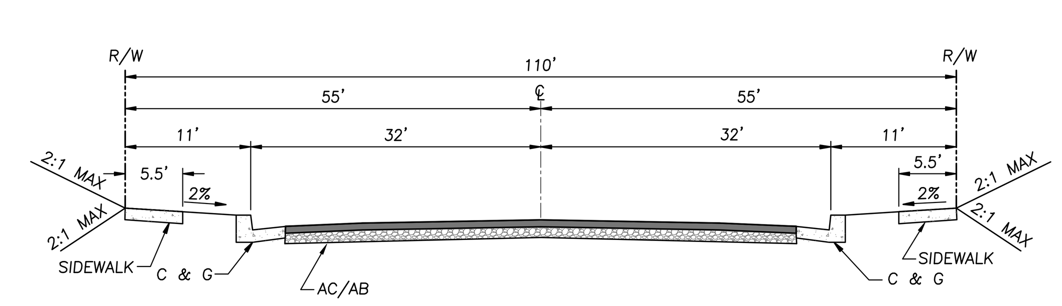


CROWS NEST PLACE
TYP. STREET SECTION :
N.T.S.
STD. NO. ST–103



STATE STREET
TYP. STREET SECTION :
N.T.S.
STD. NO. ST–102A

N

0 50 100 150 200
SCALE: 1"=50'

REVISIONS	DATE	BY

PREPARED UNDER THE DIRECTION OF:

REGISTERED PROFESSIONAL ENGINEER SAM AKBARPOUR C053038 CIVIL STATE OF CALIFORNIA

SAM AKBARPOUR P.E. RCE. 053038

PLOT PLAN
CITY OF HEMET

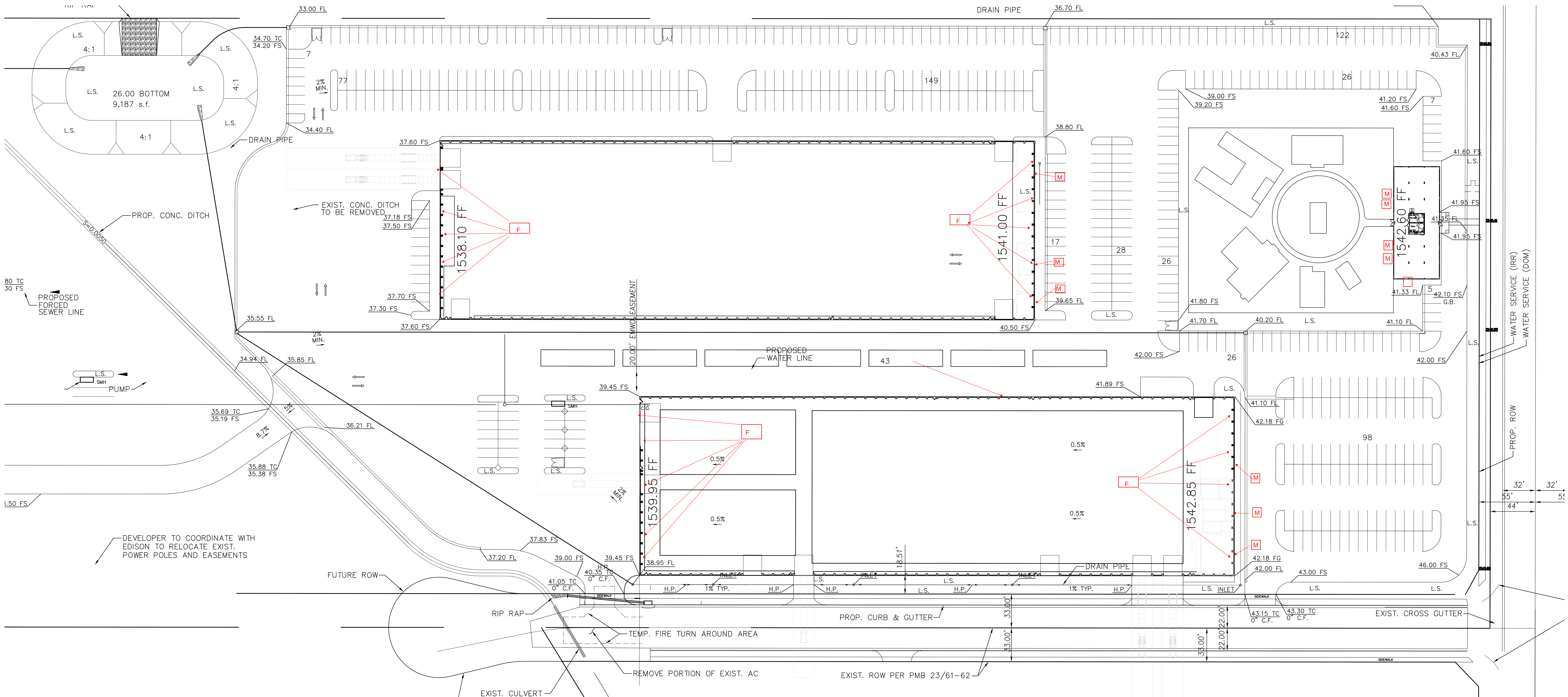
SCALE: 1" = 50'
DATE: 4/29/2020
DRAWN: JAC
DESIGNED: SA
CHECKED: SA
PLN CK REF:

SAKE ENGINEERS, INC.
ENGINEERING • SURVEYING • LAND DEVELOPMENT
400 S. RAMONA AVE., STE. 202
CORONA, CALIFORNIA 92879
(951) 279–4041 FAX (951) 279–2830

FILE: SERVER\PROJECTS\JN3210\CIVIL\PLOTPLAN

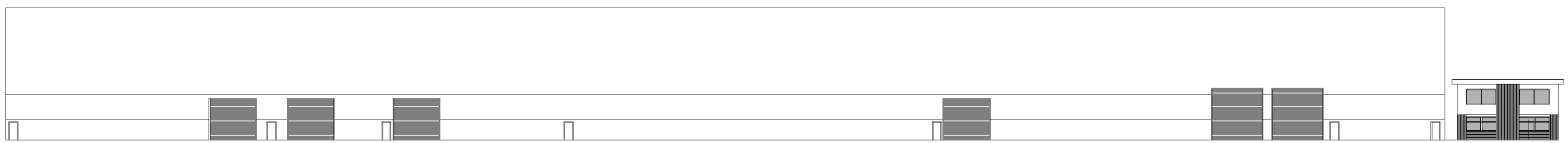
J.N. 3210
SHEET 1 OF 1 SHEETS
DWG. NO.

\\SERVER\projects\CI HEMET\JN3210 John S2A Factory\CIVIL\PLOTPLAN.dwg, 5/22/2020 12:00:04 PM, 1:50

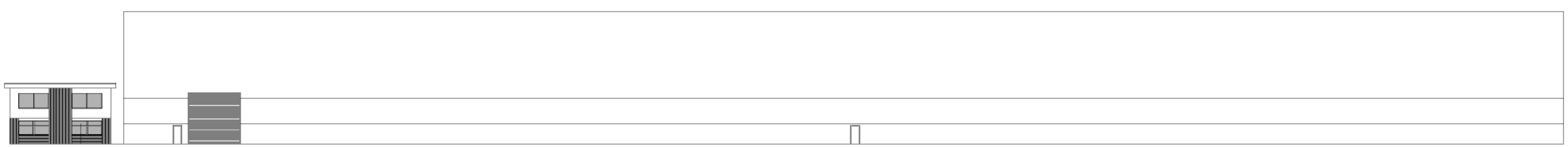


Item	Description	Location Symbol
Fan	Intake Fan	F
HVAC	Mini split System	M

FRONT



LEFT



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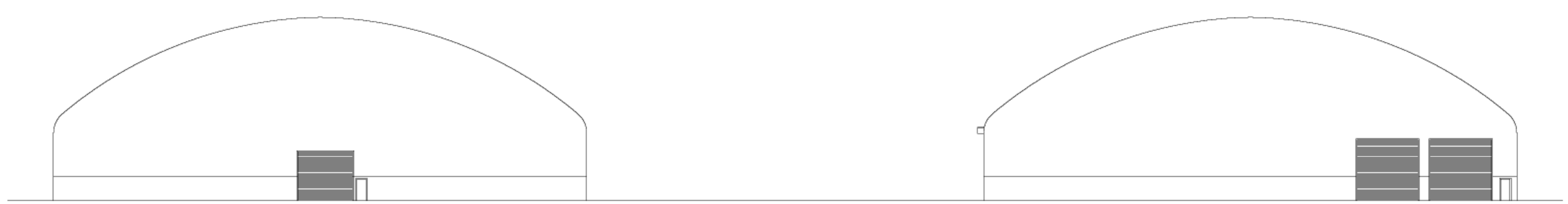


REAR

MANUFACTURER:

CUSTOMER:

PROJECT NAME:
S2A MODULAR
MANUFACTURING PLANT
& OFFICES
CONCEPT DESIGN FOR
1321 & 1255
NORTH STATE STREET
APN #S
439-030-009
439-030-010

APPROVAL STAMPS:

DRAWN BY: LCL

DATE: 4.30.19

SCALE: AS SHOWN

REVISIONS:

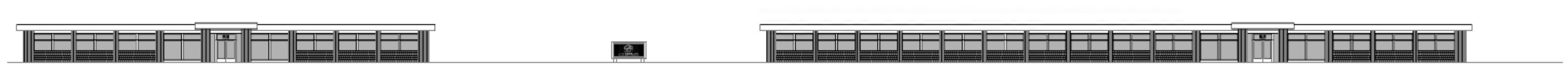
NO:	DATE:	DESCRIPTION:
1.		

DRAWING DESCRIPTION

ELEVATIONS

SHEET TITLE

E1



FRONT
STATE STREET OFFICES ONLY

FRONT
STATE STREET OFFICES WITH PLANT INCLUDED IN BACKGROUND

MANUFACTURER:

CUSTOMER:

S²A MODULAR
SUSTAINABILITY ADVANCED

PROJECT NAME:
S2A MODULAR
MANUFACTURING PLANT
& OFFICES
CONCEPT DESIGN FOR
1321 & 1255
NORTH STATE STREET
APN #S
439-030-009
439-030-010

APPROVAL STAMPS:

DRAWN BY: LCL
DATE: 5.1.19
SCALE: AS SHOWN
REVISIONS:

NO:	DATE:	DESCRIPTION:
1.		

DRAWING DESCRIPTION
ELEVATIONS

SHEET TITLE
E2

APPENDIX B

Pertinent Sections of the City of Hemet Public Safety Element to the General Plan and Municipal Code

6.10.4 NOISE AND LAND USE COMPATIBILITY

Noise Standards

The City has developed the following noise and land use compatibility designations: normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable. Using these designations, the City has established both interior and exterior noise standards.

Community noise is commonly described in terms of the ambient, or all-encompassing, noise level associated with a given environment. Numerous metrics have been developed to account for the way people perceive sound. The most common of these descriptors are the average equivalent noise level (L_{eq}), the maximum noise level (L_{max}), and the community noise equivalent level (CNEL). L_{eq} represents a measure of the average noise level at a given location over a specified period of time. CNEL is based on a 24-hour L_{eq}, which weights evening and nighttime noise levels to account for increased sensitivity of people to noise occurring during these periods.

Hemet's Land Use Compatibility Standards are presented in Table 6.3. These standards, which use the CNEL noise descriptor, apply to land uses exposed to noise levels generated by transportation-related sources. Residential uses and hotels or overnight lodgings are most sensitive to their noise environment and thus have the lowest range of normally acceptable noise exposure levels. Other uses, such as fairgrounds, are less sensitive and can occur in areas with higher existing noise levels.

Land use compatibility standards for exterior and interior noise are shown in Table 6.4. These standards are maximum interior noise levels for new residential development. Insulation and design features must be employed to reduce interior ambient noise levels to these levels.

The City applies a second set of standards when planning and making development decisions to ensure that stationary noise sources (e.g., HVAC units, industrial operations) do not adversely affect noise-sensitive land uses. These hourly and maximum levels (expressed in L_{eq} and L_{max}) for stationary noise sources are designed to protect noise-sensitive land uses adjacent to stationary sources from excessive and continuous noise. Table 6.5 summarizes stationary source noise standards. These standards represent the acceptable exterior noise levels at the sensitive receptor's property line.

Table 6.4 Land Use Compatibility Standards for Exterior and Interior Noise		
	Maximum Allowable Noise (CNEL)	
Land Use	Exterior (dBA)	Interior (dBA)
Residential and mixed use with residential component	65	45
School classrooms	65	45
School playgrounds	70	--
Libraries	–	50
Hospitals, convalescent homes—sleeping areas	–	40
Hospitals, convalescent homes—living areas	–	50
Passive recreation areas	65	–
Active recreation areas	70	–
Commercial and industrial areas	70	–
Office areas	–	50

Notes: CNEL = community noise equivalent level; dBA = A-weighted decibel; – = not applicable/not available.
The acceptable interior noise level for other uses depends upon the specific nature of the indoor activity.

Table 6.5 Noise Level Performance Standards for Nontransportation Noise Sources		
Noise Level Descriptor	Daytime (7 a.m.–10 p.m.)	Nighttime (10 p.m.–7 a.m.)
Hourly average level (L_{eq})	60 dBA	45 dBA
Maximum equivalent levels (L_{max})	75 dBA	65 dBA

Notes: Each of the noise levels specified shall be lowered by 5 decibels for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings). The noise standard is to be applied at the property lines of the affected land use.

Sec. 67-10. - Time of grading operations.

Grading is allowed Monday through Friday between the hours of 6:00 a.m. and 6:00 p.m. from June 1 through September 30, and between the hours of 7:00 a.m. and 6:00 p.m. from October 1 through May 31. Grading is allowed on Saturdays between the hours of 7:00 a.m. and 6:00 p.m. yearround. Grading on Sundays is prohibited.

The city engineer may extend the hours allowed for grading if he or she determines that such operations are not detrimental to the health, safety or welfare of the occupants of nearby structures, or the quiet enjoyment of nearby residential property.

(Ord. No. 1862, § 1(Exh. A), 6-25-13)

APPENDIX C

Cadna Analysis Data and Results

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025-4230
Phone: (760) 738-5570
Date: 18 Jun 2020

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
R1			31.4	-80.1	60.0	45.0				1.52	r	292.01	396.89	1.52
R2			47.1	-75.8	60.0	45.0				1.52	r	557.07	340.07	1.52
NML			75.9	-60.3	60.0	45.0				1.52	r	882.48	352.12	1.52

Roads

Name	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
			Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(km/h)	(km/h)		(dB)		(%)	(dB)	(m)	(m)
State Street (North of Crows Nest)		R_1	68.5	0.0	0.0			1260.0	0.0	0.0	4.8	0.0	0.0	89		19.81	0.0	1	0.0	0.0		
State Street (South of Crows Nest)		R_2	68.5	0.0	0.0			1260.0	0.0	0.0	4.8	0.0	0.0	89		19.81	0.0	1	0.0	0.0		
Crows Nest		R_3	34.2	0.0	0.0			12.0	0.0	0.0	0.0	0.0	0.0	32		6.71	0.0	1	0.0	0.0		

Geometry - Roads

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(m)	(%)
	(m)		(m)		(m)	(m)	(m)	(m)		
State Street (North of Crows Nest)	0.00	r			895.14	340.68	0.00	0.00		
					897.80	666.85	0.00	0.00		
State Street (South of Crows Nest)	0.00	r			894.47	341.35	0.00	0.00		
					902.47	100.55	0.00	0.00		
Crows Nest	0.00	r			893.80	340.01	0.00	0.00		
					596.98	340.01	0.00	0.00		

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025-4230
Phone: (760) 738-5570
Date: 18 Jun 2020

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
R1			45.6	-79.3	60.0	45.0				1.52	r	292.01	396.89	1.52
R2			51.7	-75.5	60.0	45.0				1.52	r	557.07	340.07	1.52
NML			77.6	-60.3	60.0	45.0				1.52	r	882.48	352.12	1.52

Roads

Name	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
			Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(km/h)	(km/h)		(dB)		(%)	(dB)	(m)	(m)
State Street (North of Crows Nest)		R_1	70.2	0.0	0.0			1840.0	0.0	0.0	5.0	0.0	0.0	89		19.81	0.0	1	0.0	0.0		
State Street (South of Crows Nest)		R_2	70.1	0.0	0.0			1803.0	0.0	0.0	5.0	0.0	0.0	89		19.81	0.0	1	0.0	0.0		
Crows Nest		R_3	36.0	0.0	0.0			18.0	0.0	0.0	0.0	0.0	0.0	32		6.71	0.0	1	0.0	0.0		

Geometry - Roads

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(m)	(%)
	(m)		(m)		(m)	(m)	(m)	(m)		
State Street (North of Crows Nest)	0.00	r			895.14	340.68	0.00	0.00		
					897.80	666.85	0.00	0.00		
State Street (South of Crows Nest)	0.00	r			894.47	341.35	0.00	0.00		
					902.47	100.55	0.00	0.00		
Crows Nest	0.00	r			893.80	340.01	0.00	0.00		
					596.98	340.01	0.00	0.00		

Eilar Associates, Inc.
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Date: 18 Jun 2020

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
R1			45.9	-79.2	60.0	45.0				1.52	r	292.01	396.89	1.52
R2			52.7	-74.4	60.0	45.0				1.52	r	557.07	340.07	1.52
NML			77.8	-59.9	60.0	45.0				1.52	r	882.48	352.12	1.52

Roads

Name	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
			Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(km/h)	(km/h)		(dB)		(%)	(dB)	(m)	(m)
State Street (North of Crows Nest)		R_1	70.4	0.0	0.0			1917.0	0.0	0.0	5.0	0.0	0.0	89		19.81	0.0	1	0.0	0.0		
State Street (South of Crows Nest)		R_2	70.3	0.0	0.0			1894.0	0.0	0.0	5.0	0.0	0.0	89		19.81	0.0	1	0.0	0.0		
Crows Nest		R_3	53.2	0.0	0.0			138.0	0.0	0.0	4.0	0.0	0.0	56		7.32	0.0	1	0.0	0.0		

Geometry - Roads

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(m)	(%)
	(m)		(m)		(m)	(m)	(m)	(m)		
State Street (North of Crows Nest)	0.00	r			895.14	340.68	0.00	0.00		
					897.80	666.85	0.00	0.00		
State Street (South of Crows Nest)	0.00	r			894.47	341.35	0.00	0.00		
					902.47	100.55	0.00	0.00		
Crows Nest	0.00	r			893.80	340.01	0.00	0.00		
					596.98	340.01	0.00	0.00		

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Date: 18 Jun 2020

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
R1			37.0	24.3	60.0	45.0				1.52	r	292.01	396.89	1.52
R2			49.6	36.4	60.0	45.0				1.52	r	557.07	340.07	1.52

Point Sources

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
Condenser		AC4	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	808.27	388.86	1.00
Condenser		AC5	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	808.07	373.54	1.00
Condenser		AC6	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	808.34	363.76	1.00
Backup Alarm		BU2	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0				1.00	0.00	0.00	0.0		(none)	2.44	r	629.92	381.61	2.44
Backup Alarm		BU3	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0				1.00	0.00	0.00	0.0		(none)	2.44	r	670.54	354.25	2.44
Backup Alarm		BU4	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0				1.00	0.00	0.00	0.0		(none)	2.44	r	783.93	354.58	2.44
Intake		IF11	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	629.50	396.89	2.44
Intake		IF12	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	629.90	389.74	2.44
Intake		IF13	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	630.16	380.21	2.44
Intake		IF14	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	630.03	372.14	2.44
Intake		IF15	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	630.29	365.25	2.44
Intake		IF16	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.10	396.76	2.44
Intake		IF17	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.26	388.01	2.44
Intake		IF18	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.00	381.13	2.44
Intake		IF19	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.13	373.06	2.44
Intake		IF20	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.26	364.85	2.44

Line Sources

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src			
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number			Spee
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night	(km/h
Forklifts	+		87.3	-15.7	-15.7	63.2	-39.9	-39.9	PWL-Pt	S8		2.0	0.0	0.0							0.0		(none)	2.0	0.0	0.0	10.0
On-Site Transport Truck	+		85.3	-14.7	-14.7	65.3	-34.7	-34.7	PWL-Pt	S15		2.0	0.0	0.0							0.0		(none)	1.0	0.0	0.0	10.0
Delivery Truck	+		95.9	-7.1	-7.1	68.3	-34.7	-34.7	PWL-Pt	S15		2.0	0.0	0.0							0.0		(none)	2.0	0.0	0.0	10.0

Geometry - Line Sources

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)
Forklifts	1.52	r			577.54	383.50	1.52	0.00
					594.22	367.09	1.52	0.00
					617.77	361.01	1.52	0.00
					626.50	370.80	1.52	0.00
					626.50	412.88	1.52	0.00
					784.50	412.88	1.52	0.00
On-Site Transport Truck	1.52	r			599.20	365.53	1.52	0.00
					625.53	357.17	1.52	0.00
					623.78	429.13	1.52	0.00
Delivery Truck	1.52	r			824.12	337.55	1.52	0.00
					823.18	409.57	1.52	0.00
					812.12	417.44	1.52	0.00
					790.35	417.19	1.52	0.00
					617.26	418.81	1.52	0.00
					606.05	394.43	1.52	0.00
					619.87	341.61	1.52	0.00
					662.74	340.56	1.52	0.00
					669.89	351.07	1.52	0.00
					674.09	340.98	1.52	0.00
					774.77	340.14	1.52	0.00
					784.65	351.28	1.52	0.00
					795.37	338.88	1.52	0.00
					813.26	338.59	1.52	0.00

Buildings

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(m)	
C				0	0.37		

Geometry - Buildings

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(m)		(m)	(m)	(m)	(m)
C				0	0.37			630.07	407.88	7.92	0.00
								806.69	408.41	7.92	0.00
								806.66	381.87	18.14	0.00
								806.56	354.96	7.92	0.00
								630.99	354.83	7.92	0.00
								630.90	381.29	18.14	0.00

Sound Level Spectra

Name	ID	Type	Oktave Spectrum (dB)												Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
Forklift	S8	Lw			114.6	108.6	98.6	96.6	93.6	91.6	85.6	76.6	100.1	115.8	DEFRA
MXZ-5C42NA2	CON1	Lw (c)	A		47.9	56.5	61.5	60.4	60.6	57.3	50.6	45.5	66.9	77.6	Manufacturer
Delivery Truck	S15	Lw			111.8	111.8	100.8	102.8	98.8	96.8	95.8	87.8	105.3	115.4	DEFRA
Backup Alarm	L1	Lw (c)		0.0	0.0	0.0	0.0	0.0	110.7	0.0	0.0	0.0	110.7	110.7	Measurement
P24-1RS9M115	IN1	Lw			79.0	82.0	79.0	76.0	72.0	69.0	65.0	60.0	78.1	85.9	Similar - Cook Manufacturer

Eilar Associates, Inc.
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Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
R1			51.5	51.4	70.0	45.0				1.52	r	292.01	396.89	1.52
R2			65.1	65.1	70.0	45.0				1.52	r	557.07	340.07	1.52

Point Sources

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
Condenser		AC4	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	808.27	388.86	1.00
Condenser		AC5	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	808.07	373.54	1.00
Condenser		AC6	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	808.34	363.76	1.00
Backup Alarm		BU2	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0							0.0		(none)	2.44	r	629.92	381.61	2.44
Backup Alarm		BU3	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0							0.0		(none)	2.44	r	670.54	354.25	2.44
Backup Alarm		BU4	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0							0.0		(none)	2.44	r	783.93	354.58	2.44
Intake		IF11	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	629.50	396.89	2.44
Intake		IF12	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	629.90	389.74	2.44
Intake		IF13	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	630.16	380.21	2.44
Intake		IF14	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	630.03	372.14	2.44
Intake		IF15	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	630.29	365.25	2.44
Intake		IF16	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.10	396.76	2.44
Intake		IF17	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.26	388.01	2.44
Intake		IF18	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.00	381.13	2.44
Intake		IF19	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.13	373.06	2.44
Intake		IF20	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.26	364.85	2.44

Line Sources

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src			
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number			Spee
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m^2)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night	(km/h
Forklifts	+		87.3	-15.7	-15.7	63.2	-39.9	-39.9	PWL-Pt	S8		2.0	0.0	0.0							0.0		(none)	2.0	0.0	0.0	10.0
On-Site Transport Truck	+		85.3	-14.7	-14.7	65.3	-34.7	-34.7	PWL-Pt	S15		2.0	0.0	0.0							0.0		(none)	1.0	0.0	0.0	10.0
Delivery Truck	+		95.9	-7.1	-7.1	68.3	-34.7	-34.7	PWL-Pt	S15		2.0	0.0	0.0							0.0		(none)	2.0	0.0	0.0	10.0

Geometry - Line Sources

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)
Forklifts	1.52	r			577.54	383.50	1.52	0.00
					594.22	367.09	1.52	0.00
					617.77	361.01	1.52	0.00
					626.50	370.80	1.52	0.00
					626.50	412.88	1.52	0.00
					784.50	412.88	1.52	0.00
On-Site Transport Truck	1.52	r			599.20	365.53	1.52	0.00
					625.53	357.17	1.52	0.00
					623.78	429.13	1.52	0.00
Delivery Truck	1.52	r			824.12	337.55	1.52	0.00
					823.18	409.57	1.52	0.00
					812.12	417.44	1.52	0.00
					790.35	417.19	1.52	0.00
					617.26	418.81	1.52	0.00
					606.05	394.43	1.52	0.00
					619.87	341.61	1.52	0.00
					662.74	340.56	1.52	0.00
					669.89	351.07	1.52	0.00
					674.09	340.98	1.52	0.00
					774.77	340.14	1.52	0.00
					784.65	351.28	1.52	0.00
					795.37	338.88	1.52	0.00
					813.26	338.59	1.52	0.00

Buildings

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(m)	
C				0	0.37		

Geometry - Buildings

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(m)		(m)	(m)	(m)	(m)
C				0	0.37			630.07	407.88	7.92	0.00
								806.69	408.41	7.92	0.00
								806.66	381.87	18.14	0.00
								806.56	354.96	7.92	0.00
								630.99	354.83	7.92	0.00
								630.90	381.29	18.14	0.00

Sound Level Spectra

Name	ID	Type	Oktave Spectrum (dB)												Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
Forklift	S8	Lw			114.6	108.6	98.6	96.6	93.6	91.6	85.6	76.6	100.1	115.8	DEFRA
MXZ-5C42NA2	CON1	Lw (c)	A		47.9	56.5	61.5	60.4	60.6	57.3	50.6	45.5	66.9	77.6	Manufacturer
Delivery Truck	S15	Lw			111.8	111.8	100.8	102.8	98.8	96.8	95.8	87.8	105.3	115.4	DEFRA
Backup Alarm	L1	Lw (c)		0.0	0.0	0.0	0.0	0.0	110.7	0.0	0.0	0.0	110.7	110.7	Measurement
P24-1RS9M115	IN1	Lw			79.0	82.0	79.0	76.0	72.0	69.0	65.0	60.0	78.1	85.9	Similar - Cook Manufacturer

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025-4230
Phone: (760) 738-5570
Date: 18 Jun 2020

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
R1			50.2	37.2	60.0	45.0				1.52	r	292.01	396.89	1.52
R2			52.4	38.4	60.0	45.0				1.52	r	557.07	340.07	1.52

Point Sources

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height	Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night					X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m^2)		(min)	(min)	(min)	(dB)	(Hz)		(m)	(m)	(m)	(m)
Condenser		AC1	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00 r	749.09	473.08	1.00
Condenser		AC2	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00 r	748.82	443.52	1.00
Condenser		AC3	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00 r	748.56	434.21	1.00
Condenser		AC4	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00 r	808.27	388.86	1.00
Condenser		AC5	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00 r	808.07	373.54	1.00
Condenser		AC6	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00 r	808.34	363.76	1.00
Condenser		AC7	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00 r	853.37	470.18	1.00
Condenser		AC8	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00 r	853.40	466.29	1.00
Condenser		AC9	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00 r	852.95	453.04	1.00
Condenser		AC10	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00 r	853.51	449.19	1.00
Backup Alarm		BU1	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0				1.00	0.00	0.00	0.0		(none)	2.44 r	569.43	474.69	2.44
Backup Alarm		BU2	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0				1.00	0.00	0.00	0.0		(none)	2.44 r	629.92	381.61	2.44
Backup Alarm		BU3	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0				1.00	0.00	0.00	0.0		(none)	2.44 r	670.54	354.25	2.44
Backup Alarm		BU4	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0				1.00	0.00	0.00	0.0		(none)	2.44 r	783.93	354.58	2.44
Backup Alarm		BU5	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0				1.00	0.00	0.00	0.0		(none)	2.44 r	335.51	442.76	2.44
Backup Alarm		BU6	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0				1.00	0.00	0.00	0.0		(none)	2.44 r	352.41	377.16	2.44
Intake		IF1	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	569.37	473.82	2.44
Intake		IF2	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	569.58	466.26	2.44
Intake		IF3	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	569.54	456.17	2.44
Intake		IF4	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	569.37	448.40	2.44
Intake		IF5	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	569.16	440.20	2.44
Intake		IF6	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	748.31	474.17	2.44
Intake		IF7	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	747.98	468.20	2.44
Intake		IF8	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	747.87	458.86	2.44
Intake		IF9	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	747.77	450.03	2.44
Intake		IF10	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	748.08	441.84	2.44
Intake		IF11	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	629.50	396.89	2.44
Intake		IF12	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	629.90	389.74	2.44
Intake		IF13	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	630.16	380.21	2.44
Intake		IF14	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	630.03	372.14	2.44
Intake		IF15	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	630.29	365.25	2.44
Intake		IF16	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	807.10	396.76	2.44
Intake		IF17	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	807.26	388.01	2.44
Intake		IF18	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	807.00	381.13	2.44
Intake		IF19	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	807.13	373.06	2.44
Intake		IF20	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	807.26	364.85	2.44
Intake Fan		IF21	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	392.39	363.95	2.44
Intake Fan		IF22	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	344.70	364.37	2.44
Intake Fan		IF23	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	321.68	434.30	2.44
Intake Fan		IF24	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44 r	322.18	481.82	2.44

Line Sources

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src			
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number			Spee
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night	(km/h
Forklifts	+		93.4	-9.6	-9.6	63.2	-39.9	-39.9	PWL-Pt	S8		2.0	0.0	0.0							0.0		(none)	2.0	0.0	0.0	10.0
On-Site Transport Truck	+		91.2	-8.8	-8.8	65.3	-34.7	-34.7	PWL-Pt	S15		2.0	0.0	0.0							0.0		(none)	1.0	0.0	0.0	10.0
Delivery Truck	+		97.9	-5.1	-5.1	68.3	-34.7	-34.7	PWL-Pt	S15		2.0	0.0	0.0							0.0		(none)	2.0	0.0	0.0	10.0
Delivery Truck	+		94.0	-9.0	-9.0	68.3	-34.7	-34.7	PWL-Pt	S15		2.0	0.0	0.0							0.0		(none)	2.0	0.0	0.0	10.0

Geometry - Line Sources

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)
Forklifts	1.52	r			336.91	444.26	1.52	0.00
					363.73	445.43	1.52	0.00
					364.94	411.53	1.52	0.00
					368.35	385.18	1.52	0.00
					414.85	384.41	1.52	0.00
					468.06	384.07	1.52	0.00
					499.74	385.94	1.52	0.00
					526.95	404.71	1.52	0.00
					532.12	417.38	1.52	0.00
					538.29	427.38	1.52	0.00
					537.45	503.74	1.52	0.00
					557.46	503.74	1.52	0.00
					557.96	412.88	1.52	0.00
					577.54	383.50	1.52	0.00
					594.22	367.09	1.52	0.00
					617.77	361.01	1.52	0.00
					626.50	370.80	1.52	0.00
					626.50	412.88	1.52	0.00
					784.50	412.88	1.52	0.00
					781.57	492.98	1.52	0.00
					566.48	492.98	1.52	0.00
On-Site Transport Truck	1.52	r			567.19	475.50	1.52	0.00
					568.32	502.91	1.52	0.00
					537.23	503.12	1.52	0.00
					539.12	413.64	1.52	0.00
					599.20	365.53	1.52	0.00
					625.53	357.17	1.52	0.00
					623.78	429.13	1.52	0.00
					559.36	428.59	1.52	0.00
Delivery Truck	1.52	r			824.24	341.18	1.52	0.00
					824.49	417.32	1.52	0.00
					790.35	417.19	1.52	0.00
					562.53	425.80	1.52	0.00
					561.19	492.84	1.52	0.00
					538.01	500.18	1.52	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)
					534.90	428.52	1.52	0.00
					529.07	408.68	1.52	0.00
					497.05	384.84	1.52	0.00
					371.02	384.41	1.52	0.00
					365.29	481.18	1.52	0.00
					336.81	476.88	1.52	0.00
					348.98	380.94	1.52	0.00
Delivery Truck	1.52	r			532.32	415.03	1.52	0.00
					572.25	387.84	1.52	0.00
					613.56	392.51	1.52	0.00
					622.19	337.63	1.52	0.00
					664.80	340.28	1.52	0.00
					671.42	351.93	1.52	0.00
					679.89	339.49	1.52	0.00
					776.76	341.60	1.52	0.00
					783.91	350.07	1.52	0.00
					792.38	341.60	1.52	0.00
					824.52	340.73	1.52	0.00

Buildings

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(m)	
A				0	0.37	3.66	r
C				0	0.37		
B				0	0.37		
D				0	0.37	7.32	r
E				0	0.37	7.32	r

Geometry - Buildings

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(m)		(m)	(m)	(m)	(m)
A				0	0.37	3.66	r	854.00	475.93	3.66	0.00
								867.81	476.02	3.66	0.00
								867.74	442.63	3.66	0.00
								853.90	442.55	3.66	0.00
C				0	0.37			630.07	407.88	7.92	0.00
								806.69	408.41	7.92	0.00
								806.66	381.87	18.14	0.00
								806.56	354.96	7.92	0.00
								630.99	354.83	7.92	0.00
								630.90	381.29	18.14	0.00
B				0	0.37			570.29	482.89	7.92	0.00
								747.43	483.63	7.92	0.00
								746.80	455.08	18.14	0.00
								747.22	430.39	7.92	0.00
								570.27	430.34	7.92	0.00
								570.27	456.23	18.14	0.00
D				0	0.37	7.32	r	345.54	376.71	7.32	0.00
								391.72	376.84	7.32	0.00
								391.59	352.49	7.32	0.00
								345.40	352.62	7.32	0.00
E				0	0.37	7.32	r	310.60	480.47	7.32	0.00
								334.15	480.73	7.32	0.00
								334.15	434.94	7.32	0.00
								310.07	434.94	7.32	0.00

Sound Level Spectra

Name	ID	Type	Oktave Spectrum (dB)												Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
Forklift	S8	Lw			114.6	108.6	98.6	96.6	93.6	91.6	85.6	76.6	100.1	115.8	DEFRA
MXZ-5C42NA2	CON1	Lw (c)	A		47.9	56.5	61.5	60.4	60.6	57.3	50.6	45.5	66.9	77.6	Manufacturer
Delivery Truck	S15	Lw			111.8	111.8	100.8	102.8	98.8	96.8	95.8	87.8	105.3	115.4	DEFRA
Backup Alarm	L1	Lw (c)		0.0	0.0	0.0	0.0	0.0	110.7	0.0	0.0	0.0	110.7	110.7	Measurement
P24-1RS9M115	IN1	Lw			79.0	82.0	79.0	76.0	72.0	69.0	65.0	60.0	78.1	85.9	Similar - Cook Manufacturer

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025-4230
Phone: (760) 738-5570
Date: 18 Jun 2020

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
R1			65.9	65.8	70.0	45.0				1.52	r	292.01	396.89	1.52
R2			66.4	66.3	70.0	45.0				1.52	r	557.07	340.07	1.52

Point Sources

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
Condenser		AC1	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	749.09	473.08	1.00
Condenser		AC2	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	748.82	443.52	1.00
Condenser		AC3	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	748.56	434.21	1.00
Condenser		AC4	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	808.27	388.86	1.00
Condenser		AC5	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	808.07	373.54	1.00
Condenser		AC6	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	808.34	363.76	1.00
Condenser		AC7	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	853.37	470.18	1.00
Condenser		AC8	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	853.40	466.29	1.00
Condenser		AC9	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	852.95	453.04	1.00
Condenser		AC10	66.9	66.9	66.9	Lw	CON1		0.0	0.0	0.0							0.0		(none)	1.00	r	853.51	449.19	1.00
Backup Alarm		BU1	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0							0.0		(none)	2.44	r	569.43	474.69	2.44
Backup Alarm		BU2	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0							0.0		(none)	2.44	r	629.92	381.61	2.44
Backup Alarm		BU3	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0							0.0		(none)	2.44	r	670.54	354.25	2.44
Backup Alarm		BU4	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0							0.0		(none)	2.44	r	783.93	354.58	2.44
Backup Alarm		BU5	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0							0.0		(none)	2.44	r	335.51	442.76	2.44
Backup Alarm		BU6	110.7	110.7	110.7	Lw	L1		0.0	0.0	0.0							0.0		(none)	2.44	r	352.41	377.16	2.44
Intake		IF1	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	569.37	473.82	2.44
Intake		IF2	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	569.58	466.26	2.44
Intake		IF3	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	569.54	456.17	2.44
Intake		IF4	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	569.37	448.40	2.44
Intake		IF5	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	569.16	440.20	2.44
Intake		IF6	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	748.31	474.17	2.44
Intake		IF7	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	747.98	468.20	2.44
Intake		IF8	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	747.87	458.86	2.44
Intake		IF9	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	747.77	450.03	2.44
Intake		IF10	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	748.08	441.84	2.44
Intake		IF11	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	629.50	396.89	2.44
Intake		IF12	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	629.90	389.74	2.44
Intake		IF13	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	630.16	380.21	2.44
Intake		IF14	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	630.03	372.14	2.44
Intake		IF15	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	630.29	365.25	2.44
Intake		IF16	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.10	396.76	2.44
Intake		IF17	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.26	388.01	2.44
Intake		IF18	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.00	381.13	2.44
Intake		IF19	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.13	373.06	2.44
Intake		IF20	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	807.26	364.85	2.44
Intake Fan		IF21	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	392.39	363.95	2.44
Intake Fan		IF22	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	344.70	364.37	2.44
Intake Fan		IF23	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	321.68	434.30	2.44
Intake Fan		IF24	78.1	78.1	78.1	Lw	IN1		0.0	0.0	0.0							0.0		(none)	2.44	r	322.18	481.82	2.44

Line Sources

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src			
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number			Spee
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night	(km/h
Forklifts	+		93.4	-9.6	-9.6	63.2	-39.9	-39.9	PWL-Pt	S8		2.0	0.0	0.0							0.0		(none)	2.0	0.0	0.0	10.0
On-Site Transport Truck	+		91.2	-8.8	-8.8	65.3	-34.7	-34.7	PWL-Pt	S15		2.0	0.0	0.0							0.0		(none)	1.0	0.0	0.0	10.0
Delivery Truck	+		97.9	-5.1	-5.1	68.3	-34.7	-34.7	PWL-Pt	S15		2.0	0.0	0.0							0.0		(none)	2.0	0.0	0.0	10.0
Delivery Truck	+		94.0	-9.0	-9.0	68.3	-34.7	-34.7	PWL-Pt	S15		2.0	0.0	0.0							0.0		(none)	2.0	0.0	0.0	10.0

Geometry - Line Sources

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)
Forklifts	1.52	r			336.91	444.26	1.52	0.00
					363.73	445.43	1.52	0.00
					364.94	411.53	1.52	0.00
					368.35	385.18	1.52	0.00
					414.85	384.41	1.52	0.00
					468.06	384.07	1.52	0.00
					499.74	385.94	1.52	0.00
					526.95	404.71	1.52	0.00
					532.12	417.38	1.52	0.00
					538.29	427.38	1.52	0.00
					537.45	503.74	1.52	0.00
					557.46	503.74	1.52	0.00
					557.96	412.88	1.52	0.00
					577.54	383.50	1.52	0.00
					594.22	367.09	1.52	0.00
					617.77	361.01	1.52	0.00
					626.50	370.80	1.52	0.00
					626.50	412.88	1.52	0.00
					784.50	412.88	1.52	0.00
					781.57	492.98	1.52	0.00
					566.48	492.98	1.52	0.00
On-Site Transport Truck	1.52	r			567.19	475.50	1.52	0.00
					568.32	502.91	1.52	0.00
					537.23	503.12	1.52	0.00
					539.12	413.64	1.52	0.00
					599.20	365.53	1.52	0.00
					625.53	357.17	1.52	0.00
					623.78	429.13	1.52	0.00
					559.36	428.59	1.52	0.00
Delivery Truck	1.52	r			824.24	341.18	1.52	0.00
					824.49	417.32	1.52	0.00
					790.35	417.19	1.52	0.00
					562.53	425.80	1.52	0.00
					561.19	492.84	1.52	0.00
					538.01	500.18	1.52	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)
					534.90	428.52	1.52	0.00
					529.07	408.68	1.52	0.00
					497.05	384.84	1.52	0.00
					371.02	384.41	1.52	0.00
					365.29	481.18	1.52	0.00
					336.81	476.88	1.52	0.00
					348.98	380.94	1.52	0.00
Delivery Truck	1.52	r			532.32	415.03	1.52	0.00
					572.25	387.84	1.52	0.00
					613.56	392.51	1.52	0.00
					622.19	337.63	1.52	0.00
					664.80	340.28	1.52	0.00
					671.42	351.93	1.52	0.00
					679.89	339.49	1.52	0.00
					776.76	341.60	1.52	0.00
					783.91	350.07	1.52	0.00
					792.38	341.60	1.52	0.00
					824.52	340.73	1.52	0.00

Buildings

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(m)	
A				0	0.37	3.66	r
C				0	0.37		
B				0	0.37		
D				0	0.37	7.32	r
E				0	0.37	7.32	r

Geometry - Buildings

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(m)		(m)	(m)	(m)	(m)
A				0	0.37	3.66	r	854.00	475.93	3.66	0.00
								867.81	476.02	3.66	0.00
								867.74	442.63	3.66	0.00
								853.90	442.55	3.66	0.00
C				0	0.37			630.07	407.88	7.92	0.00
								806.69	408.41	7.92	0.00
								806.66	381.87	18.14	0.00
								806.56	354.96	7.92	0.00
								630.99	354.83	7.92	0.00
								630.90	381.29	18.14	0.00
B				0	0.37			570.29	482.89	7.92	0.00
								747.43	483.63	7.92	0.00
								746.80	455.08	18.14	0.00
								747.22	430.39	7.92	0.00
								570.27	430.34	7.92	0.00
								570.27	456.23	18.14	0.00
D				0	0.37	7.32	r	345.54	376.71	7.32	0.00
								391.72	376.84	7.32	0.00
								391.59	352.49	7.32	0.00
								345.40	352.62	7.32	0.00
E				0	0.37	7.32	r	310.60	480.47	7.32	0.00
								334.15	480.73	7.32	0.00
								334.15	434.94	7.32	0.00
								310.07	434.94	7.32	0.00

Sound Level Spectra

Name	ID	Type	Oktave Spectrum (dB)												Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
Forklift	S8	Lw			114.6	108.6	98.6	96.6	93.6	91.6	85.6	76.6	100.1	115.8	DEFRA
MXZ-5C42NA2	CON1	Lw (c)	A		47.9	56.5	61.5	60.4	60.6	57.3	50.6	45.5	66.9	77.6	Manufacturer
Delivery Truck	S15	Lw			111.8	111.8	100.8	102.8	98.8	96.8	95.8	87.8	105.3	115.4	DEFRA
Backup Alarm	L1	Lw (c)		0.0	0.0	0.0	0.0	0.0	110.7	0.0	0.0	0.0	110.7	110.7	Measurement
P24-1RS9M115	IN1	Lw			79.0	82.0	79.0	76.0	72.0	69.0	65.0	60.0	78.1	85.9	Similar - Cook Manufacturer

APPENDIX D

Manufacturer Data Sheets

M-Series

SUBMITTAL DATA: MXZ-5C42NA2
MULTI-INDOOR INVERTER HEAT-PUMP SYSTEM

MITSUBISHI ELECTRIC

Job Name:	
System Reference:	Date:

Outdoor Unit: MXZ-5C42NA2

ACCESSORIES

- ☐ 3/8” x 1/2” Port Adapter (MAC-A454JP-E)
- ☐ 1/2” x 3/8” Port Adapter (MAC-A455JP-E)
- ☐ 1/2” x 5/8” Port Adapter (MAC-A456JP-E)
- ☐ 1/4” x 3/8” Port Adapter (PAC-493PI)
- ☐ 3/8” x 5/8” Port Adapter (PAC-SG76RJ-E)
- ☐ M-NET Adapter (PAC-IF01MNT-E)
- ☐ Base Heater (PAC-645BH-E)

(For data on specific indoor units, see the MXZ-C Technical and Service Manual.)

Specifications			Model Name
Unit Type			MXZ-5C42NA2
Cooling* (Non-ducted / Ducted)	Rated Capacity	Btu/h	40,500 / 37,400
	Capacity Range	Btu/h	12,600 - 43,000
	Rated Total Input	W	4,403 / 4,112
Heating at 47°F* (Non-ducted / Ducted)	Rated Capacity	Btu/h	45,000 / 41,000
	Capacity Range	Btu/h	11,400 - 53,600
	Rated Total Input	W	3,575 / 3,463
Heating at 17°F* (Non-ducted/Ducted)	Rated Capacity	Btu/h	24,400 / 23,000
	Rated Total Input	W	2,943 / 2,869
Connectable Capacity		Btu/h	12,000 - 51,000
Electrical Requirements	Power Supply	Voltage, Phase, Hertz	208 / 230V, 1-Phase, 60 Hz
	Recommended Fuse/Breaker Size	A	40
	MCA	A	32.5
Voltage	Indoor - Outdoor S1-S2	V	AC 208 / 230
	Indoor - Outdoor S2-S3	V	DC ±24
Compressor			INVERTER-driven Scroll Hermetic
Fan Motor (ECM)		F.L.A.	2.43
Sound Pressure Level	Cooling	dB(A)	56
	Heating	dB(A)	58
External Dimensions (H x W x D)		In mm	41-9/32 x 37-13/32 x 13 (1048 x 950 x 330)
Net Weight		Lbs / kg	189 (86)
External Finish			Munsell No. 3Y 7.8/11
Refrigerant Pipe Size O.D.	Liquid (High Pressure)	In / mm	1/4 (6.35)
	Gas (Low Pressure)	In / mm	A:1/2 (12.7) ; B,C,D,E: 3/8 (9.52)
Max. Refrigerant Line Length		Ft / m	262 (80)
Max. Piping Length for Each Indoor Unit		Ft / m	82 (25)
Max. Refrigerant Pipe Height Difference	If IDU is Above ODU	Ft / m	49 (15)
	If IDU is Below ODU	Ft / m	49 (15)
Connection Method			Flared/Flared
Refrigerant			R410A

* Rating Conditions per AHRI Standard:

Cooling | Indoor: 80º F (27º C) DB / 67º F (19º C) WB
Cooling | Outdoor: 95º F (35º C) DB / 23.9º C (75º F) WB

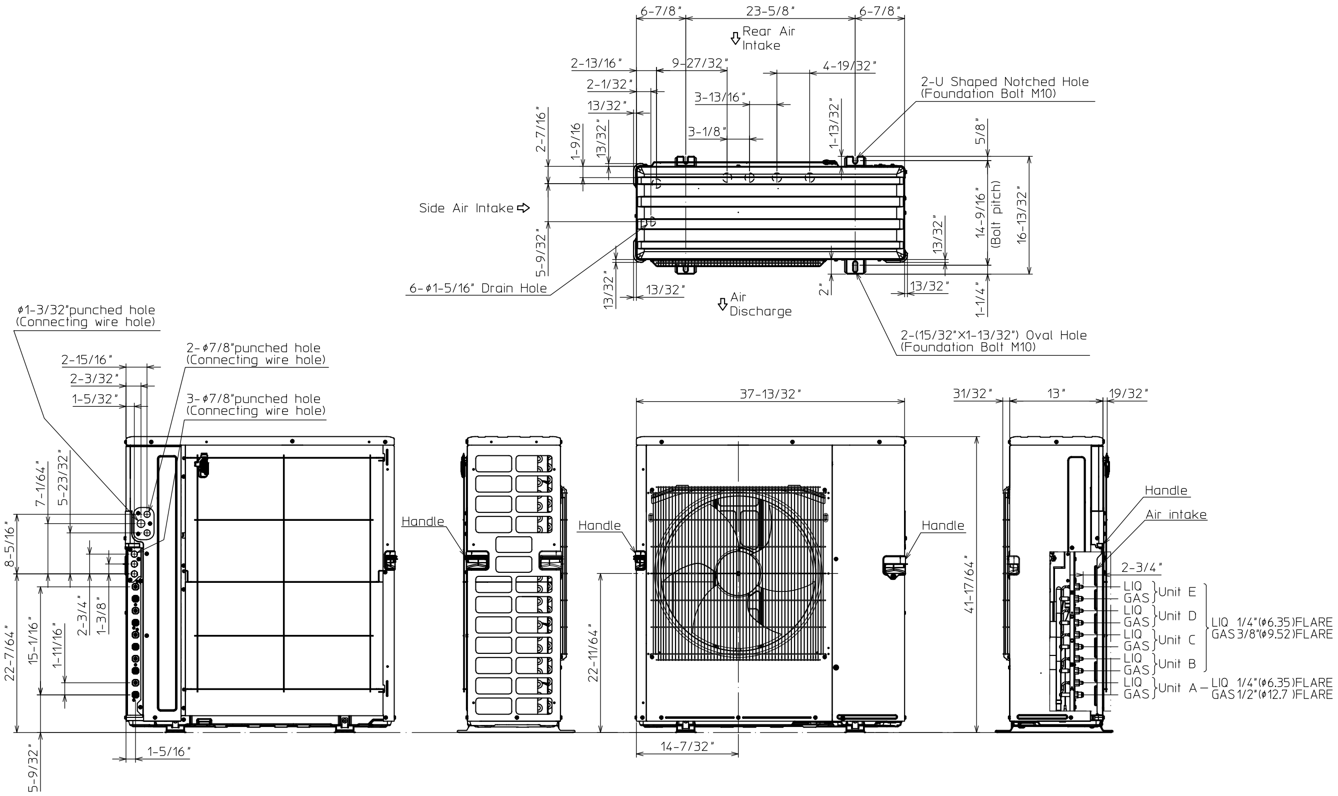
Heating at 47ºF | Indoor: 70º F (21º C) DB / 60º F (16º C) WB
Heating at 47ºF | Outdoor: 47º F (8º C) DB / 43º F (6º C) WB

Heating at 17º F | Indoor: 70º F (21º C) DB
Heating at 17º F | Outdoor: 17º F (-8º C) DB / 15º F (-9º C) WB

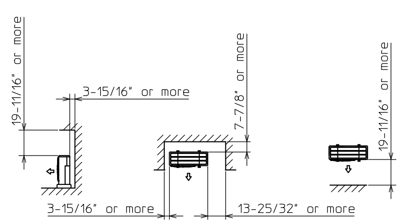
Specifications are subject to change without notice.

DIMENSIONS: MXZ-5C42NA2

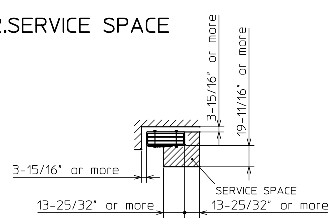
Unit: inch

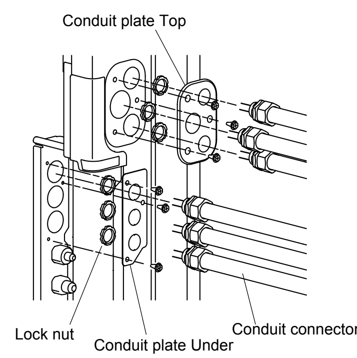


1.FREE SPACE



2.SERVICE SPACE





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Toll Free: 800-433-4822 www.mehvac.com

AHRI CERTIFIED www.ahridirectory.org Unitary Small HP AHRI Standard 210/240

c ETL us Intertek

P - SERIES SUPPLY FANS

Designed for Industrial & Commercial Supply applications.

P12-1R FAN SHOWN

P12-1RS9M1115
FAN SHOWN COMPLETE WITH SLEEVE AND MOTORIZED DAMPER.

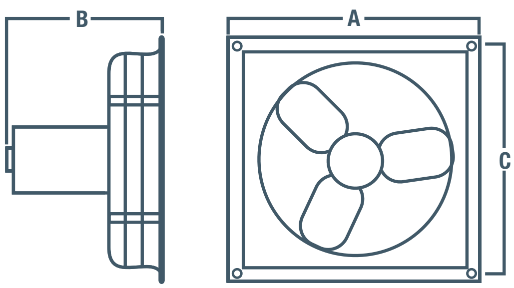
FEATURES

- Fully assembled.
- Sturdily constructed direct drive, horizontal fan.
- Durable powder coated finish.
- Heavy duty OSHA motor mount/guard is standard.
- Totally enclosed air over motor with overload protection.

Note **Non-stock, made-to-order products are non-returnable and cannot be cancelled.**

DIMENSIONS

MODEL	A X A SQUARE	B	C c/c
P12-1R	17 1/4”	11”	16"
P14-1R	19 1/4”	11”	18"
P16-1R	21 1/4”	11”	20"
P18-1R	23 1/4”	12”	22"
P20-1R	25 1/4”	12”	24"
P24-1R	29 1/4”	12”	28"



SPECIFICATIONS

MODEL	BLADE DIAMETER	RPM	HP	VOLTAGE	AMPS (FLA)	WEIGHT (LBS)	CFM @ STATIC PRESSURE			
							0.00"	0.10"	0.125"	0.25"
P SERIES SUPPLY FAN										
P12-1R	12"	1700	1/3	115/230	5.0/2.5	26	1450	1400	1370	1260
P14-1R	14"	1700	1/3	115/230	5.0/2.5	29	1950	1825	1750	1700
P16-1R	16"	1700	1/3	115/230	5.0/2.5	30	2310	2200	2150	2030
P18-1R	18"	1700	1/3	115/230	3.8/1.9	36	2835	2700	2600	2315
P20-1R	20"	1700	1/3	115/230	3.8/1.9	39	3250	3075	3000	2800
P24-1R	24"	1100	1/3	115/230	6.4/3.2	43	4040	3928	3848	3520
P SERIES SUPPLY FAN **Complete with 9" sleeve and 120 Volt motorized damper (specs are for fan motor only and not damper motor)** **For exhaust models, replace "1R" in the model name with "1V".**										
P12-1RS9M115	12"	1700	1/3	115/230	5.0/2.5	45	1450	1400	1370	1260
P14-1RS9M115	14"	1700	1/3	115/230	5.0/2.5	50	1950	1825	1750	1700
P16-1RS9M115	16"	1700	1/3	115/230	5.0/2.5	54	2310	2200	2150	2030
P18-1RS9M115	18"	1700	1/3	115/230	3.8/1.9	60	2835	2700	2600	2315
P20-1RS9M115	20"	1700	1/3	115/230	3.8/1.9	66	3250	3075	3000	2800
P24-1RS9M115	24"	1100	1/3	115/230	4.4/2.2	73	4040	3928	3848	3520

ACCESSORIES

- Thermostats
- Front guard
- Weather hoods

For a complete listing on all available accessories, see page D16.
For a complete listing of all available hoods, see page D11.
For all available control options, see Controls & Thermostats tab.

APPENDIX E

Construction Noise and Vibration Calculations

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Noise Attenuation by Distance Calculation

Job: S2A Modular Factory
Job #: S190701
Date: 11/11/2019
Source: Small Dozer
Receiver: C1 - Grading/Utilities S1

Noise Source

Noise Level (dBA)	74	at	50	feet

Distances

Source Elevation	0	feet	at	5	feet above grade
Receiver Elevation:	0	feet	at	5	feet above grade
Source to Receiver Distance:	150	feet			

Path Calculation

Source to Receiver Direct Path Distance: **150** feet

Sound Pressure Level	**64.5**	at	150	feet
Hours of Use:	**12**			
Duty Cycle (%):	**40**			
Level During 12 Hour day:	**60.5**			

Summation

Number of Sources: 4

Level during 12 hour day: **67.9**

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Noise Attenuation by Distance Calculation

Job: S2A Modular Factory
Job #: S190701
Date: 11/11/2019
Source: Dozer
Receiver: C1 - Grading/Utilities S

Noise Source

Noise Level (dBA)	76	at	50	feet

Distances

Source Elevation	0	feet	at	5	feet above grade
Receiver Elevation:	0	feet	at	5	feet above grade
Source to Receiver Distance:	150	feet			

Path Calculation

Source to Receiver Direct Path Distance:	**150**	feet

Sound Pressure Level	**66.5**	at	150	feet
Hours of Use:	**12**			
Duty Cycle (%):	**40**			
Level During 12 Hour day:	**62.5**			

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Noise Attenuation by Distance Calculation

Job: S2A Modular Factory
Job #: S190701
Date: 11/11/2019
Source: Backhoe
Receiver: C1 - Grading/Utilities S

Noise Source

Noise Level (dBA)	74	at	50	feet

Distances

Source Elevation	0	feet	at	5	feet above grade
Receiver Elevation:	0	feet	at	5	feet above grade
Source to Receiver Distance:	150	feet			

Path Calculation

Source to Receiver Direct Path Distance:	**150**	feet

Sound Pressure Level	**64.5**	at	150	feet
Hours of Use:	**12**			
Duty Cycle (%):	**40**			
Level During 12 Hour day:	**60.5**			

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Noise Attenuation by Distance Calculation

Job: S2A Modular Factory
Job #: S190701
Date: 11/11/2019
Source: Water Truck
Receiver: C1 - Grading/Utilities S

Noise Source

Noise Level (dBA)	77	at	50	feet

Distances

Source Elevation	0	feet	at	5	feet above grade
Receiver Elevation:	0	feet	at	5	feet above grade
Source to Receiver Distance:	150	feet			

Path Calculation

Source to Receiver Direct Path Distance:	**150**	feet

Sound Pressure Level	**67.5**	at	150	feet
Hours of Use:	**12**			
Duty Cycle (%):	**40**			
Level During 12 Hour day:	**63.5**			

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Noise Attenuation by Distance Calculation

Job: S2A Modular Factory
Job #: S190701
Date: 11/11/2019
Source: Concrete Pump Truck
Receiver: C2 - Foundation S2

Noise Source

Noise Level (dBA)	74	at	50	feet

Distances

Source Elevation	0	feet	at	5	feet above grade
Receiver Elevation:	0	feet	at	5	feet above grade
Source to Receiver Distance:	115	feet			

Path Calculation

Source to Receiver Direct Path Distance: **115** feet

Sound Pressure Level	**66.8**	at	115	feet
Hours of Use:	**12**			
Duty Cycle (%):	**20**			
Level During 12 Hour day:	**59.8**			

Summation

Number of Sources: 1

Level during 12 hour day: **59.8**

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Noise Attenuation by Distance Calculation

Job: S2A Modular Factory
Job #: S190701
Date: 11/11/2019
Source: 6 Pickup Trucks
Receiver: C2 - Building Installation S2

Noise Source

Noise Level (dBA) 83.8 at 50 feet

Distances

Source Elevation 0 feet at 5 feet above grade
Receiver Elevation: 0 feet at 5 feet above grade
Source to Receiver Distance: 115 feet

Path Calculation

Source to Receiver Direct Path Distance: **115** feet

Sound Pressure Level **76.6** at 115 feet

Hours of Use: **12**
Duty Cycle (%): **40**
Level During 12 Hour day: **72.6**

Summation

Number of Sources: 2

Level during 12 hour day: **72.6**

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Noise Attenuation by Distance Calculation

Job: S2A Modular Factory
Job #: S190701
Date: 11/11/2019
Source: Crane
Receiver: C2 - Building Installation S2

Noise Source

Noise Level (dBA)	66	at	50	feet

Distances

Source Elevation	0	feet	at	5	feet above grade
Receiver Elevation:	0	feet	at	5	feet above grade
Source to Receiver Distance:	115	feet			

Path Calculation

Source to Receiver Direct Path Distance:	**115**	feet

Sound Pressure Level	**58.8**	at	115	feet
Hours of Use:	**12**			
Duty Cycle (%):	**16**			
Level During 12 Hour day:	**50.8**			

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Noise Attenuation by Distance Calculation

Job: S2A Modular Factory
Job #: S190701
Date: 11/11/2019
Source: Asphalt Paver
Receiver: C2 - Paving S3

Noise Source

Noise Level (dBA) 71 at 50 feet

Distances

Source Elevation	0	feet	at	5	feet above grade
Receiver Elevation:	0	feet	at	5	feet above grade
Source to Receiver Distance:	300	feet			

Path Calculation

Source to Receiver Direct Path Distance: **300** feet

Sound Pressure Level	**55.4**	at	300	feet
Hours of Use:	**12**			
Duty Cycle (%):	**50**			
Level During 12 Hour day:	**52.4**			

Summation

Number of Sources: 3

Level during 12 hour day: **62.3**

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Noise Attenuation by Distance Calculation

Job: S2A Modular Factory
Job #: S190701
Date: 11/11/2019
Source: Roller
Receiver: C2 - Paving S3

Noise Source

Noise Level (dBA)	74	at	50	feet

Distances

Source Elevation	0	feet	at	5	feet above grade
Receiver Elevation:	0	feet	at	5	feet above grade
Source to Receiver Distance:	300	feet			

Path Calculation

Source to Receiver Direct Path Distance:	**300**	feet

Sound Pressure Level	**58.4**	at	300	feet
Hours of Use:	**12**			
Duty Cycle (%):	**20**			
Level During 12 Hour day:	**51.4**			

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Noise Attenuation by Distance Calculation

Job: S2A Modular Factory
Job #: S190701
Date: 11/11/2019
Source: 3 Pickup Trucks
Receiver: C2 - Paving S3

Noise Source

Noise Level (dBA)	81	at	50	feet

Distances

Source Elevation	0	feet	at	5	feet above grade
Receiver Elevation:	0	feet	at	5	feet above grade
Source to Receiver Distance:	300	feet			

Path Calculation

Source to Receiver Direct Path Distance:	**300**	feet

Sound Pressure Level	**65.4**	at	300	feet
Hours of Use:	**12**			
Duty Cycle (%):	**40**			
Level During 12 Hour day:	**61.5**			

Construction Vibration Calculation

Job: S2A Factory
Job #: S190701
Date: 11/8/2019
Source 1: Loaded Trucks
Receiver: Southwest PL

Vibration Source

Vibration Level (PPV, in/sec) 0.076 at 25 feet

Path Calculation

Source to Receiver Direct Path Distance: **25** feet

Vibration Level (PPV, in/sec) **0.076** at 25 feet

Path Calculation

Source to Receiver Direct Path Distance: **50** feet

Vibration Level (PPV, in/sec) **0.027** at 50 feet

Path Calculation

Source to Receiver Direct Path Distance: **100** feet

Vibration Level (PPV, in/sec) **0.010** at 100 feet

S2A MODULAR MANUFACTURING TRAFFIC IMPACT ANALYSIS

City of Hemet

May 12, 2020

ganddini

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

S2A MODULAR MANUFACTURING TRAFFIC IMPACT ANALYSIS

City of Hemet

May 12, 2020

prepared by

Perrie Ilercil, P.E. (AZ)
Giancarlo Ganddini, PE, PTP

GANDDINI GROUP, INC.
550 Parkcenter Drive, Suite 202
Santa Ana, California 92705
714.795.3100 | www.ganddini.com

19-0164

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EXECUTIVE SUMMARY

The purpose of this Traffic Impact Analysis is to provide an assessment of traffic operations resulting from development of the proposed S2A Modular Manufacturing project and to identify measures necessary to mitigate potentially significant traffic impacts. This report analyzes traffic impacts for the anticipated project phase one completion in Year 2021 and fully operational by completion Year 2024.

Although this is a technical report, effort has been made to write the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with technical terms related to transportation engineering.

PROJECT DESCRIPTION

The 32.1-acre project site is located at the northwest corner of State Street and Crows Nest Place in the City of Hemet. The project site is currently vacant. The proposed project involves construction of a 250,000 square foot manufacturing facility for modular housing.

The proposed project is planned to be constructed in two phases. The project proposes a phase one construction of 111,750 square foot of manufacturing land use with an anticipated completion in Year 2021 and a second construction phase of 138,250 square foot of manufacturing land use with a fully operational completion by Year 2024.

PROJECT TRIPS

The proposed project is forecast to generate a total of approximately 983 daily vehicle trips, including 156 vehicle trips during the AM peak hour and 168 vehicle trips during the PM peak hour. The proposed project is forecast to generate a total of approximately 1,262 daily PCE (Passenger Car Equivalent) trips, including 237 PCE trips during the AM peak hour and 220 PCE trips during the PM peak hour (see Table 2).

PROJECT DESIGN FEATURES

Two full access driveways are proposed on Crows Nest Place. Trucks to and from the site will primarily use the west access driveway. This analysis assumes the following improvements will be constructed by the project to provide project site access:

Project West Driveway at Crows Nest Place - #7

- Install outbound cross street stop-control.
- Construct the southbound approach to consist of one shared left-turn/right-turn lane.

Project East Driveway at Crows Nest Place - #8

- Install outbound cross street stop-control.
- Construct the southbound approach to consist of one shared left-turn/right-turn lane.

EXISTING OPERATIONS

The study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions (see Table 1).

FORECAST OPERATIONS

Existing Plus Project: The study intersections are forecast to operate within acceptable Levels of Service (D or better) for Existing Plus Project conditions, except for the following study intersection that is projected to operate at unacceptable Level of Service without improvements (see Table 4):

- State Street (NS) at Crows Nest Place (EW) - #2

This intersection is projected to operate at an acceptable Level of Service with improvements specified in the following mitigation measures section.

Opening Year (2021) Plus Project (EAGP): The study intersections are forecast to operate within acceptable Levels of Service (D or better) for Opening Year (2021) Plus Project (EAGP) conditions, except for the following study intersection that is projected to operate at unacceptable Level of Service without improvements (see Table 5):

- State Street (NS) at Crows Nest Place EW) - #2

This intersection is projected to operate at an acceptable Level of Service with improvements specified in the following mitigation measures section.

Opening Year (2021) Plus Project Plus Cumulative (EAGPC): The study intersections are forecast to operate within acceptable Levels of Service (D or better) for Opening Year (2021) Plus Project Plus Cumulative (EAGPC) conditions, except for the following study intersections that are projected to operate at unacceptable Levels of Service without improvements (see Table 5):

- State Street (NS) at Crows Nest Place (EW) - #2
- State Street (NS) at Menlo Avenue (EW) - #4

These intersections are projected to operate at acceptable Levels of Service with improvements specified in the following mitigation measures section.

Completion Year (2024) Plus Project (EAGP): The study intersections are forecast to operate within acceptable Levels of Service (D or better) for Completion Year (2024) Plus Project (EAGP) conditions, except for the following study intersection that is projected to operate at unacceptable Level of Service without improvements (see Table 6):

- State Street (NS) at Crows Nest Place (EW) - #2

This intersection is projected to operate at an acceptable Level of Service with improvements specified in the following mitigation measures section.

Completion Year (2024) Plus Project Plus Cumulative (EAGPC): The study intersections are forecast to operate within acceptable Levels of Service (D or better) for Completion Year (2024) Plus Project Plus Cumulative (EAGPC) conditions, except for the following study intersections that are projected to operate at unacceptable Levels of Service without improvements (see Table 6):

- State Street (NS) at Crows Nest Place (EW) - #2
- State Street (NS) at Menlo Avenue (EW) - #4

These intersections are projected to operate at acceptable Levels of Service with improvements specified in the following mitigation measures section.

It should be noted that to provide a conservative analysis for State Street and Florida Avenue (SR-74), this cumulative development analysis does not include re-routing of eastbound-westbound Florida Avenue traffic volumes with the proposed future realignment of SR-79 to the west of State Street.

MITIGATION MEASURES

Direct Impacts

The proposed project is forecast to result in no significant traffic impacts at the study intersections for Existing Plus Project conditions, with improvements.

The following improvement is required with project development within the study area to maintain an acceptable Level of Service at the study intersection:

- State Street (NS) at Crows Nest Place (EW) - #2
  - Install Traffic Signal

Cumulative Impacts

In addition to the improvements previously identified for With Project conditions, as shown in the traffic impact analysis reports Opening Year Plus Project Plus Cumulative (EAGPC) conditions, the following improvements are required with cumulative development within the study area to maintain an acceptable Level of Service at the study intersection:

- State Street (NS) at Menlo Avenue (EW) - #4
  - Reconfigure eastbound approach striping to include one left turn lane and one shared through/right lane.
  - Reconfigure westbound approach striping to include one left turn lane, one through lane, and one right turn lane.
  - Modify traffic signal phasing to provide permissive eastbound and westbound phasing.

The proposed project shall contribute its fair share contribution to this cumulative impact as well as contribution to the City of Hemet Development Impact Fee (DIF) programs for the improvements for Opening Year (2021) Plus Project Plus Cumulative (EAGPC) listed above and other non-specified City determined capital improvement projects within the study area.

Development Impact Fee

Development Impact Fees (DIF) are collected on all new projects from developers building in the City of Hemet. The fees are used to build improvements to serve or to reduce the impact of new developments. Traffic capital improvement projects are funded in part by DIF Fund 329 (Bridges, Streets and Traffic Facilities). The Development Impact Fee provides a funding mechanism for arterial streets, traffic signals, interchange improvements. The City of Hemet Development Impact Fee costs included acquiring (right-of-way), designing, constructing and improving and maintaining of arterial streets from the current lane configuration to the ultimate lane configuration, new traffic signal as warranted, and interchange improvements. As required by City Code, all development projects are required to pay the Development Impact Fee as a condition of development.

At some locations, payment of the City of Hemet Development Impact Fee (DIF) would constitute mitigation of cumulative impacts. As mitigation for potential cumulative impacts, the proposed project shall contribute towards the identified improvements through an adopted traffic impact fee program, or through an equivalent fair share contribution for improvements not covered within such fee programs. Typically, applicable fees include the City of Hemet Development Impact Fee, and the County of Riverside Transportation Uniform Mitigation Fee (TUMF) and Road and Bridge Benefit District (RBBD) programs.

GENERAL RECOMMENDATIONS

On-site improvements and improvements adjacent to the site will be required in conjunction with the proposed development to ensure adequate circulation within the project.

Figure 39 summarizes the circulation recommendations for the proposed project.

- A construction work (temporary) traffic control plans are required by State law in accordance with the standards set forth in the California Manual of Uniform Traffic Control Devices (2014), and shall be submitted to the City of Hemet prior to the issuance of a grading permit or the start of construction. The plan shall identify any roadway, sidewalk, bike route, or bus stop closure and/or detour as well as haul routes and hours of operation. Whenever possible, construction related truck trips should be restricted to off-peak hours, to the extent that conditions permit.

- All roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project should be constructed in accordance with applicable State/ Federal engineering standards and to the satisfaction of the City of Hemet Public Works Department.

- Site-adjacent roadways should be constructed and/or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the City of Hemet Public Works Department.

- Adequate off-street parking should be provided to the satisfaction of City of Hemet Planning Department based on supporting parking and density analysis prepared for the project.

- The final grading, landscaping, and street improvement plans should demonstrate that sight distance standards are met in accordance with applicable City of Hemet/California Department of Transportation sight distance standards.

As is the case for any roadway design, the City of Hemet should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

1. INTRODUCTION

This section describes the purpose of this traffic impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

The purpose of this Traffic Impact Analysis is to provide an assessment of traffic operations resulting from development of the proposed S2A Modular Manufacturing project and to identify measures necessary to mitigate potentially significant traffic impacts. This report analyzes traffic impacts for the anticipated project Phase 1 completion in Year 2021 and fully operational by completion Year 2024.

Although this is a technical report, effort has been made to write the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with technical terms related to transportation engineering.

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Two full access driveways are proposed on Crows Nest Place. Trucks to and from the site will primarily use the west access driveway.

PROJECT PHASING

The proposed project is planned to be constructed in two phases. The project proposes a phase one construction of 111,750 square foot of manufacturing land use with an anticipated completion in Year 2021 and a second construction phase of 138,250 square foot of manufacturing land use with a fully operational completion by Year 2024.

STUDY AREA

Based on the scoping coordination with City of Hemet staff (see Appendix B), the study area consists of the following study intersections within the City of Hemet, City of San Jacinto, and California Department of Transportation (Caltrans) jurisdictions:

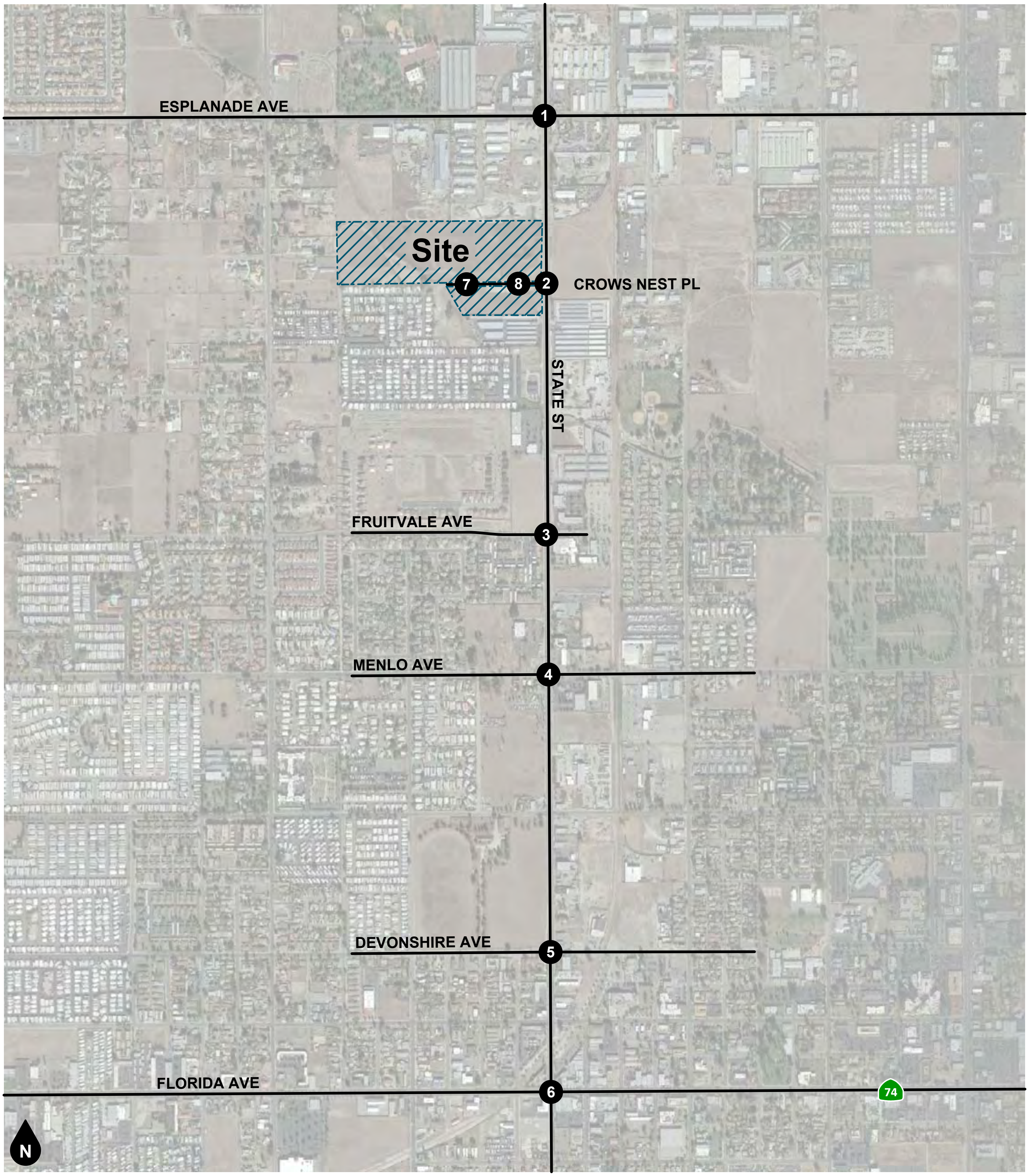
Study Intersections[1]	Jurisdiction
1. State Street (NS) at Esplanade Avenue (EW)	City of Hemet / City of San Jacinto
2. State Street (NS) at Crows Nest Place (EW)	City of Hemet
3. State Street (NS) at Fruitvale Avenue (EW)	City of Hemet
4. State Street (NS) at Menlo Avenue (EW)	City of Hemet
5. State Street (NS) at Devonshire Avenue (EW)	City of Hemet
6. State Street (NS) at Florida Avenue [SR-74] (EW)	Caltrans / City of Hemet
7. Project West Driveway (NS) at Crows Nest Place (EW)	City of Hemet
8. Project East Driveway (NS) at Crows Nest Place (EW)	City of Hemet

[1] (NS) = North-South Roadway; (EW) = East-West Roadway; SR = State Route

ANALYSIS SCENARIOS

The following scenarios are analyzed during typical weekday AM and PM peak hour conditions:

- Existing
- Existing Plus Project
- Opening Year (2021) Plus Project (EAGP)
- Opening Year (2021) Plus Project Plus Cumulative (EAGPC)
- Completion Year (2024) Plus Project (EAGP)
- Completion Year (2024) Plus Project Plus Cumulative (EAGPC)



Legend
Study Intersection

Figure 1
Project Location Map

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S2A Modular Manufacturing
Traffic Impact Analysis
19-0164

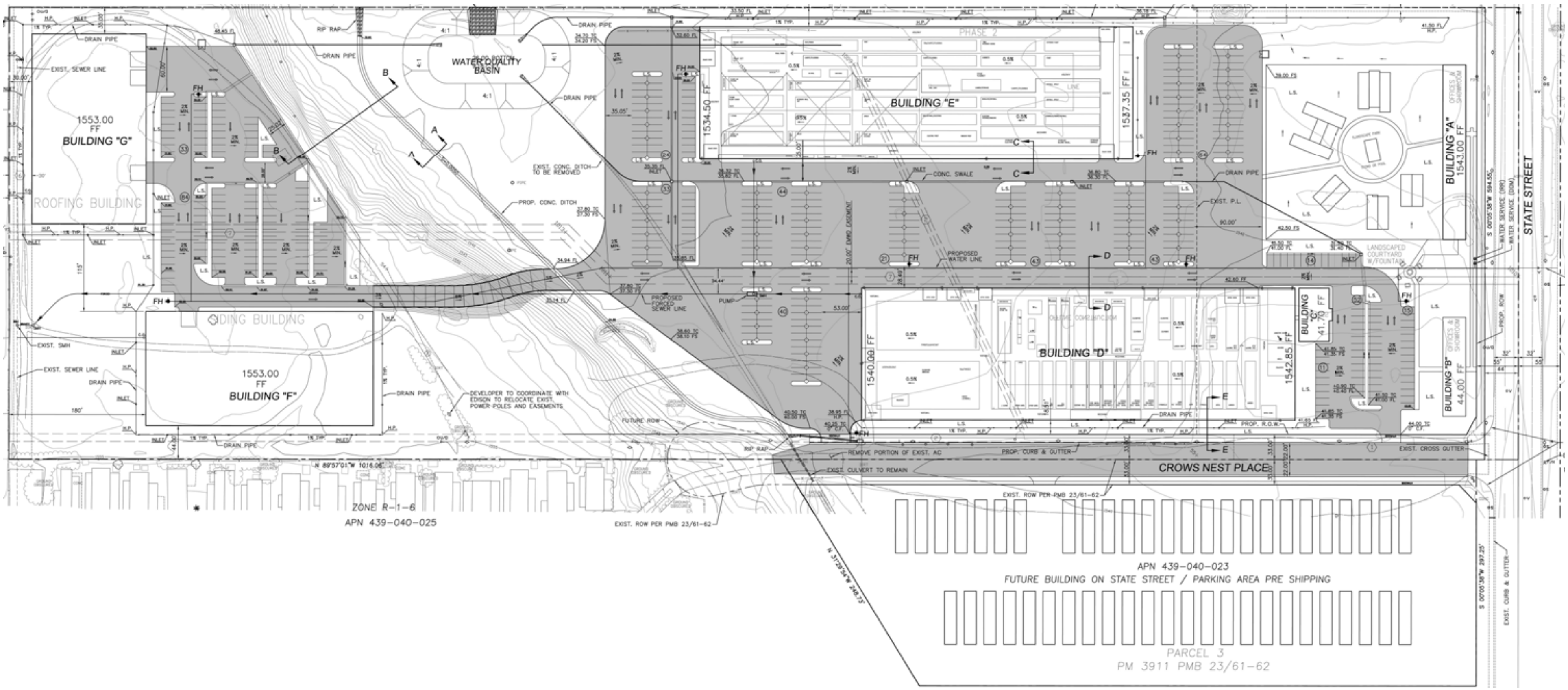


Figure 2
Site Plan

gandini

S2A Modular Manufacturing
Traffic Impact Analysis
19-0164

2. METHODOLOGY

This section discusses the analysis methodologies used to assess transportation facility performance as adopted by the respective jurisdictional agencies.

INTERSECTION DELAY METHODOLOGY

The technique used to assess the performance of intersections in the City of Hemet and State highways is known as the intersection delay methodology based on the procedures contained in the Highway Capacity Manual. The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service. Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to Level of Service based on the following thresholds:

Level of Service	Intersection Control Delay (Seconds / Vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: Transportation Research Board, Highway Capacity Manual (6th Edition).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). At intersections with traffic signal or all way stop control, Level of Service is determined by the average control delay for the overall intersection. At intersections with cross street stop control (i.e., one- or two-way stop control), Level of Service is determined by the average control delay for the worst individual movement (or movements sharing a single lane).

Intersection delay analysis was performed using the Vistro (Version 6.00-00) software. The intersection Level of Service analysis has been performed in accordance with Appendix B of the Riverside County Congestion Management Program, and Riverside County Transportation Department Traffic Impact Analysis Preparation Guide, including minimum phase times, lost time, and saturation flow rates.

PERFORMANCE STANDARDS

City of Hemet

In accordance with the City of Hemet General Plan, the City has established a peak Level of Service D or better as acceptable on all City maintained roads and conventional State Highways. Therefore, any intersection operating at Level of Service E or F is considered deficient.

City of San Jacinto

In accordance with the City of San Jacinto General Plan, the City has established a peak Level of Service D or better as acceptable for all intersections along the City designated street and highway system.

California Department of Transportation

As stated in the Guide for the Preparation of Traffic Impact Studies (State of California, 2002), "California Department of Transportation endeavors to maintain a target LOS [Level of Service] at the transition between LOS "C" and LOS "D" on State highway facilities". The California Department of Transportation acknowledges this may not always be feasible and recommends consultation with the California Department of Transportation to determine the appropriate target Level of Service. For consistency with local requirements, this analysis defines Level of Service D as the minimum acceptable Level of Service for State Highway facilities.

SIGNIFICANCE IMPACT THRESHOLDS

City of Hemet

Based on the City of Hemet performance standards, a project impact is defined as significant if the proposed project is forecast to result in one or more of the following conditions:

- The addition of project-generated trips is forecast to cause or worsen unacceptable Level of Service (E or F) at a study roadway segment or signalized study intersection.

- The addition of project-generated trips is forecast to cause or worsen unacceptable Level of Service (E or F) at an unsignalized study intersection and the peak hour traffic volume warrant (Warrant 3) is satisfied in accordance with the California Manual on Uniform Traffic Control Devices.

To mitigate a significant project impact at facilities with unacceptable Level of Service (E or F) under pre-project conditions, the project shall provide or contribute to improvements that would, at a minimum, provide Level of Service that is equal to or better than pre-project conditions.

City of San Jacinto

Based on the City of San Jacinto performance standards, a project impact is defined as significant if the proposed project is forecast to cause or worsen unacceptable Level of Service (E or F) at a study intersection.

To mitigate a significant project impact at facilities with unacceptable Level of Service (E or F), the project shall provide or contribute to improvements that would, at a minimum, provide Level of Service D.

California Department of Transportation

Based on the California Department of Transportation established performance standards, a potentially significant traffic impact is defined to occur if the addition of project generated trips is forecast to cause the performance of a State Highway study intersection to change from acceptable Level of Service (D or better) to unacceptable Level of Service (E or F).

MITIGATION REQUIREMENTS

If a project is forecast to cause a significant traffic impact, feasible mitigation measures that will reduce the impact to a less than significant level are identified. Mitigation measures can be in many forms, including the addition of lanes, traffic control modification, or demand management measures. To mitigate a significant impact at facilities with acceptable Level of Service under the pre-project conditions, the project shall provide or contribute to improvements that would provide acceptable Level of Service. To mitigate a significant impact at facilities with unacceptable Level of Service under the pre-project conditions, the project shall provide or contribute to improvements that would provide Level of Service that is equal to or better than pre-project conditions. If no feasible mitigation measures can be identified for a significantly impacted facility, the impact will remain significant and unavoidable and a statement of overriding considerations is required.

3. EXISTING CONDITIONS

Existing roadway conditions and General Plan Transportation Elements are presented in this section.

EXISTING ROADWAY SYSTEM

Figure 3 identifies the lane geometry and intersection traffic controls for Existing conditions based on a field survey of the study area. Regional access to the project area is provided by the SR-74 State Route south of the project site. The key north-south roadway providing local circulation is State Street. The key east-west roadways providing local circulation are Esplanade Avenue, Crows Nest Place, Fruitvale Avenue, Menlo Avenue, Devonshire Avenue and Florida Avenue.

State Route 74 (SR-74)/Florida Avenue is a 4-lane divided roadway classified as a State Highway on the City of Hemet General Plan Circulation Element. Florida Avenue classified as a 4-lane divided Secondary (76-foot roadway cross-section west of Gilbert Street) in the City of Hemet General Plan. SR-74 State Route access is provided at the intersection of State Street and Florida Avenue. It currently carries approximately 29,500 to 30,500 vehicles per day in the project vicinity.

State Street is a 4-lane divided to two-lane undivided roadway in the study area. State Street classified as a 4-lane divided Secondary (76-foot roadway cross-section north of Devonshire and 64-foot roadway cross-section south of Devonshire) in the City of Hemet General Plan. On-street parking is generally prohibited in the project area. Dedicated on-street bicycle lanes are not currently provided in the study area. Sidewalks are generally provided on both sides of the roadway.

Esplanade Avenue is a 4-lane divided roadway in the study area. Esplanade Avenue classified as a 4-lane divided Secondary (76-foot roadway cross-section) in the City of Hemet General Plan and 4-lane divided Major (76-foot roadway cross-section) in the City of San Jacinto General Plan. On-street parking is generally prohibited in the project area. Dedicated on-street bicycle lanes are not currently provided in the study area. Sidewalks are generally provided on both sides of the roadway.

Crows Nest Place is an unpaved roadway in the study area. Crows Nest Place is an unclassified roadway in the City of Hemet General Plan. On-street parking, on-street bicycle lanes, and sidewalks are not currently provided.

Fruitvale Avenue is a 2-lane undivided roadway in the study area. Fruitvale Avenue classified as a 2-lane undivided Collector (44-foot roadway cross-section) in the City of Hemet General Plan. On-street parking is generally not permitted on the road. Dedicated on-street bicycle lanes are not currently provided. Sidewalks are not provided on both sides of the road.

Menlo Avenue is a two-lane undivided to 3-lane undivided roadway in the study area. Menlo Avenue classified as a 4-lane undivided Secondary (64-foot roadway cross-section) in the City of Hemet General Plan. On-street parking is generally prohibited on the road. Dedicated on-street bicycle lanes are not currently provided, however a bike route is specified in the City of Hemet General Plan. Sidewalks are not provided on both sides of the road.

Devonshire Avenue is a 3-lane divided to two lane undivided roadway in the study area. Devonshire Avenue classified as a 3-lane undivided Express Collector (44-foot roadway cross-section) west of State Street and 2-lane undivided Collector (44-foot roadway cross-section) east of State Street in the City of Hemet General Plan. On-street parking is generally not permitted on the road. Dedicated on-street bicycle lanes are not currently provided, however a bike route is specified on the south side of the road for the Express Collector segment in the City of Hemet General Plan. Sidewalks are provided on the south side of the road.

PEDESTRIAN FACILITIES

Existing pedestrian facilities in the project vicinity are shown on Figure 4. As shown on Figure 4, pedestrian sidewalks are currently provided along the roadways adjacent to the project site.

TRANSIT FACILITIES

Figure 5 shows the existing transit routes available in the project vicinity. As shown in Figure 5, the study area is currently served by Riverside Transit Agency (RTA) Route 31, 32, 33 and 217 along State Street, Route 42 along Esplanade Avenue, Route 32 along Menlo Avenue, Route 31 and 33 along Devonshire, Route 28 along Florida Avenue, as well as Amtrak train station at State Street north of Florida Avenue.

GENERAL PLAN CONTEXT

Figure 6 shows the City of Hemet General Plan Circulation Element roadway classifications map. This figure shows the nature and extent of arterial and collector highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The City of Hemet standard roadway cross-sections are illustrated on Figure 7.

BICYCLE ROUTES

There are currently bicycle lanes not provided on State Street, Menlo Avenue, Devonshire Avenue and Florida Avenue. On-street bicycle lanes are proposed in the City of Hemet General Plan for State Street (north of Devonshire Avenue), Menlo Avenue, Devonshire Avenue and Florida Avenue. The City of Hemet General Plan Bike Routes is depicted on Figure 8.

TRUCK ROUTES

Figure 9 shows the designated truck routes as identified in the City of Hemet General Plan.

EXISTING AVERAGE DAILY TRAFFIC AND INTERSECTION VOLUMES

Existing peak hour intersection turning movement volumes are based upon AM peak period and PM peak period intersection turning movement counts obtained during typical weekday conditions in July 2019. The AM peak period was counted between 7:00 AM and 9:00 AM and the PM peak period was counted between 4:00 PM and 6:00 PM. The actual peak hour within the peak period is the four consecutive 15-minute periods with the highest total volume when all movements are added together. Thus, the weekday PM peak hour at one intersection may be 4:45 PM to 5:45 PM of the four consecutive 15-minute periods have the highest combined volume. Intersection turning movement count worksheets are provided in Appendix C.

The Existing average daily traffic volumes have been obtained from the <u>2017 Traffic Volumes on California State Highways</u> by the California Department of Transportation and factored from peak hour intersection turning movement volumes using the following formula for each intersection leg:

PM Peak Hour (Approach Volume + Exit Volume) x 12[1] = Leg Volume

Since some traffic counts were conducted in July, the traffic volumes used in the analysis were increased by a "school traffic" factor to represent typical weekday conditions during the school year. AM peak hour and PM peak hour counts during the school year were conducted at the State Street and Esplanade Avenue intersection prior to the start of this study. The peak hour counts during the school year were compared to the new peak hour counts. From this data, the school traffic factor was determined to increase the July counts

[1] Approximate average PM peak hour K factor for based on data 24 hour count data.

for the State Street intersections. The AM school traffic factor of 32 percent and the PM school traffic factor of 17 percent was used to increase the July counts.

Figure 10 shows the Existing average daily traffic volumes. The Existing average daily traffic volumes have been obtained from the 2017 Traffic Volumes on California State Highways by the California Department of Transportation and factored from peak hour intersection turning movement volumes.

Existing peak hour intersection turning movement volumes are based upon AM peak period and PM peak period intersection turning movement counts obtained during typical weekday conditions. Figure 11 and Figure 12 show the Existing AM and PM peak hour intersection turning movement volumes, respectively.

EXISTING INTERSECTION LEVEL OF SERVICE

The intersection Levels of Service for Existing conditions are shown in Table 1. Detailed intersection Levels of Service calculation worksheets are provided in Appendix D.

The study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions (see Table 1).

Table 1
Existing Intersection Levels of Service

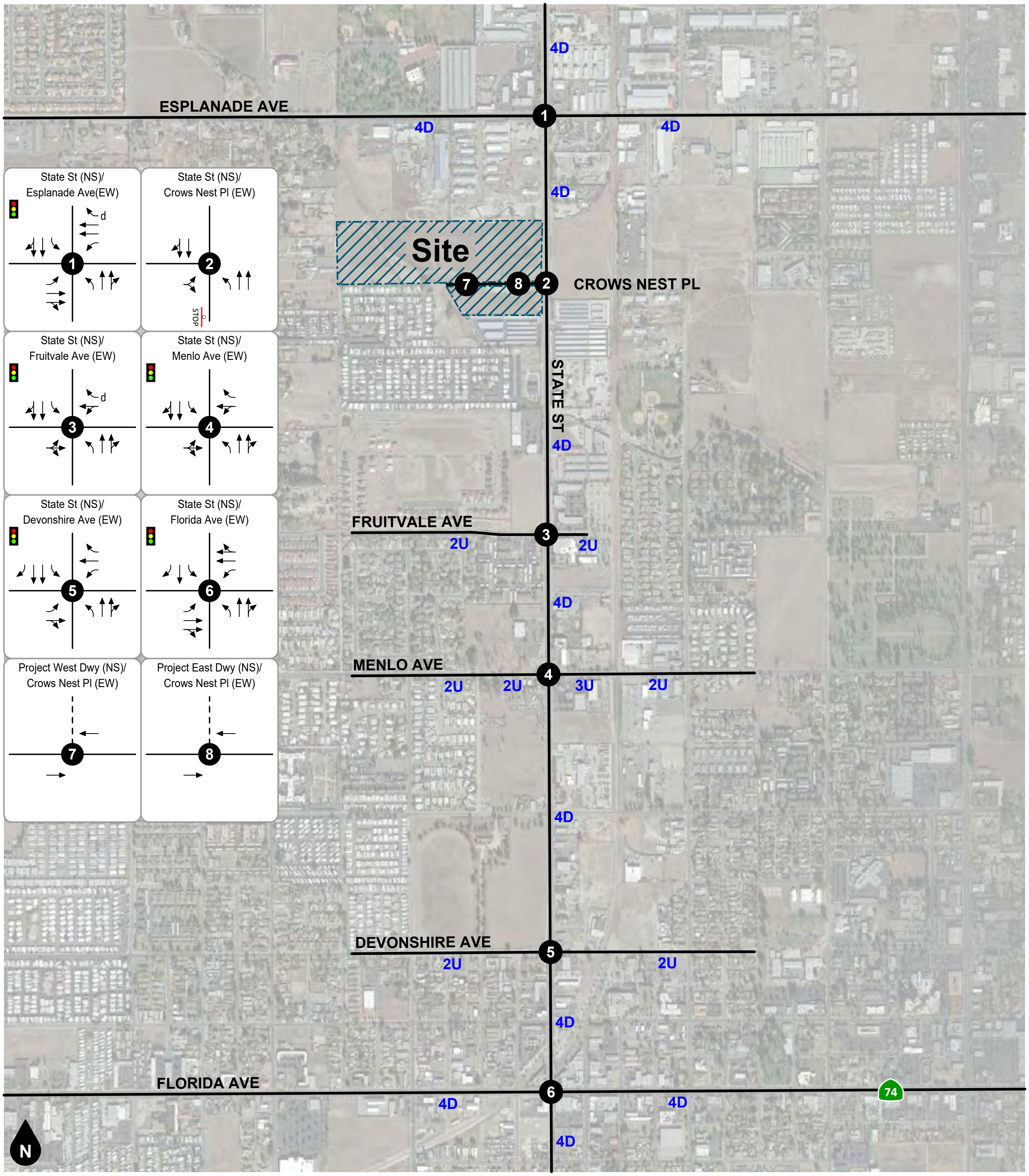
ID Study Intersection	Traffic Control[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay	LOS
1. State Street at Esplanade Avenue	TS	21.4	C	27.1	C
2. State Street at Crows Nest	CSS	17.5	C	21.2	C
3. State Street at Fruitvale Avenue	TS	12.1	B	11.0	B
4. State Street at Menlo Avenue	TS	31.8	C	41.1	D
5. State Street at Devonshire Avenue	TS	16.1	B	16.5	B
6. State Street at Florida Avenue	TS	22.4	C	29.2	C
7. Project West Access at Crows Nest	CSS	-		-	

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop

(2) Delay is shown in seconds per vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).

(3) LOS = Level of Service



Legend

Traffic Signal
STOP Stop Sign
#D #-Lane Divided Roadway
#U #-Lane Undivided Roadway
Existing Lane
d De Facto Right Turn Lane
- - - Project Driveway

Figure 3
Existing Lane Geometry and Intersection Traffic Controls

Figure 4
Existing Pedestrian Facilities

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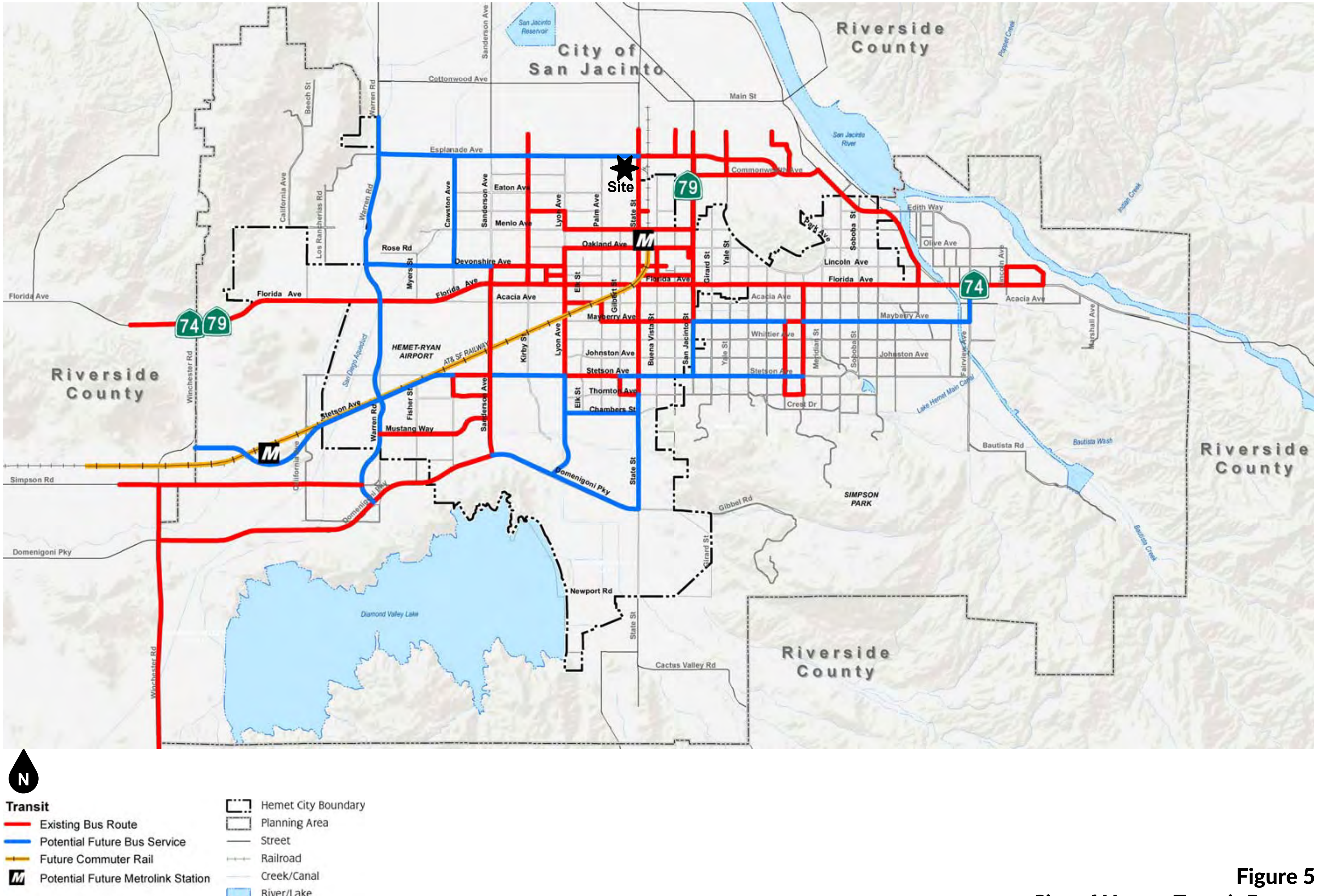

Source: City of Hemet

Figure 5
City of Hemet Transit Routes

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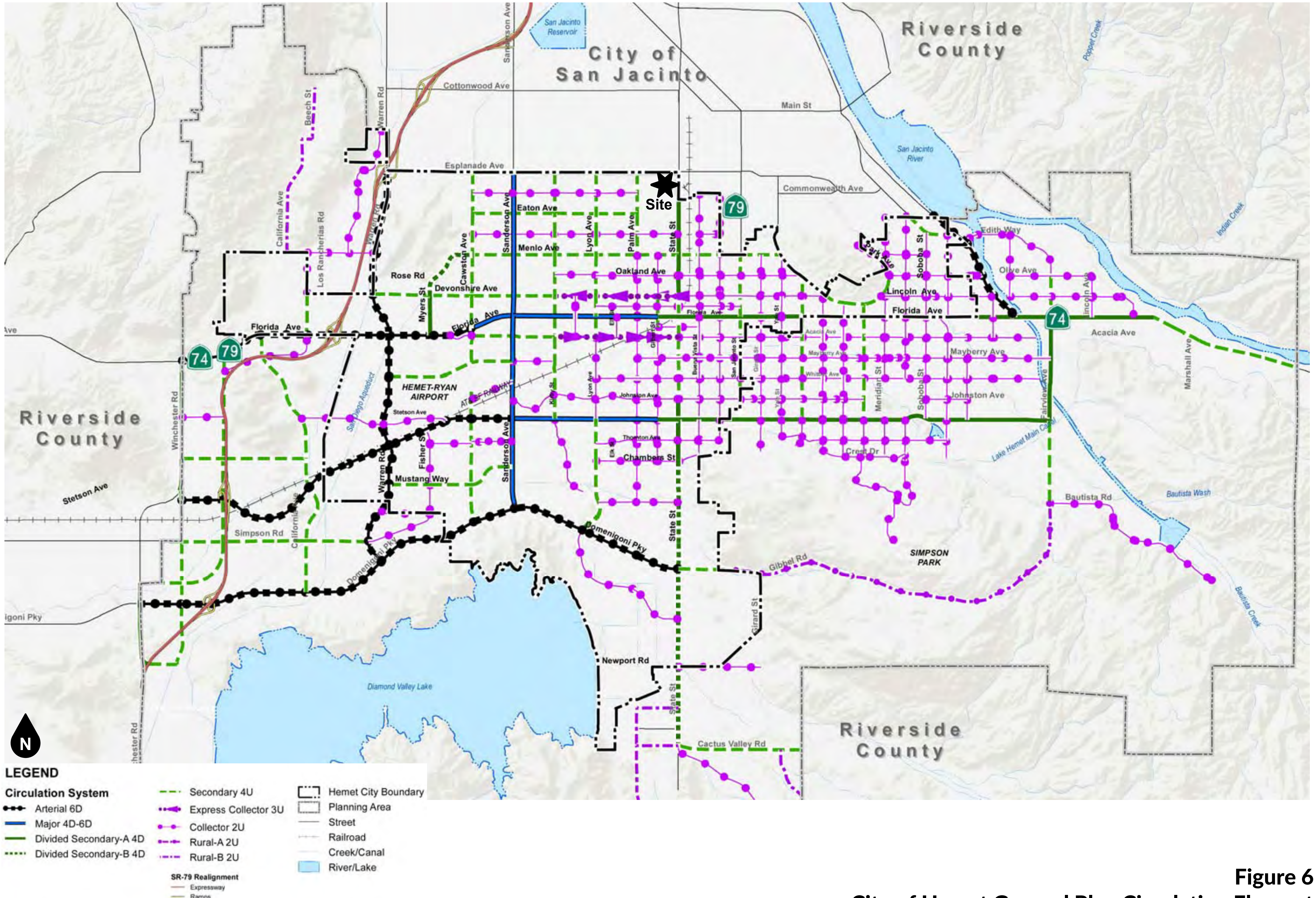
Traffic Impact Analysis
19-0164



Source: City of Hemet

Figure 6
City of Hemet General Plan Circulation Element

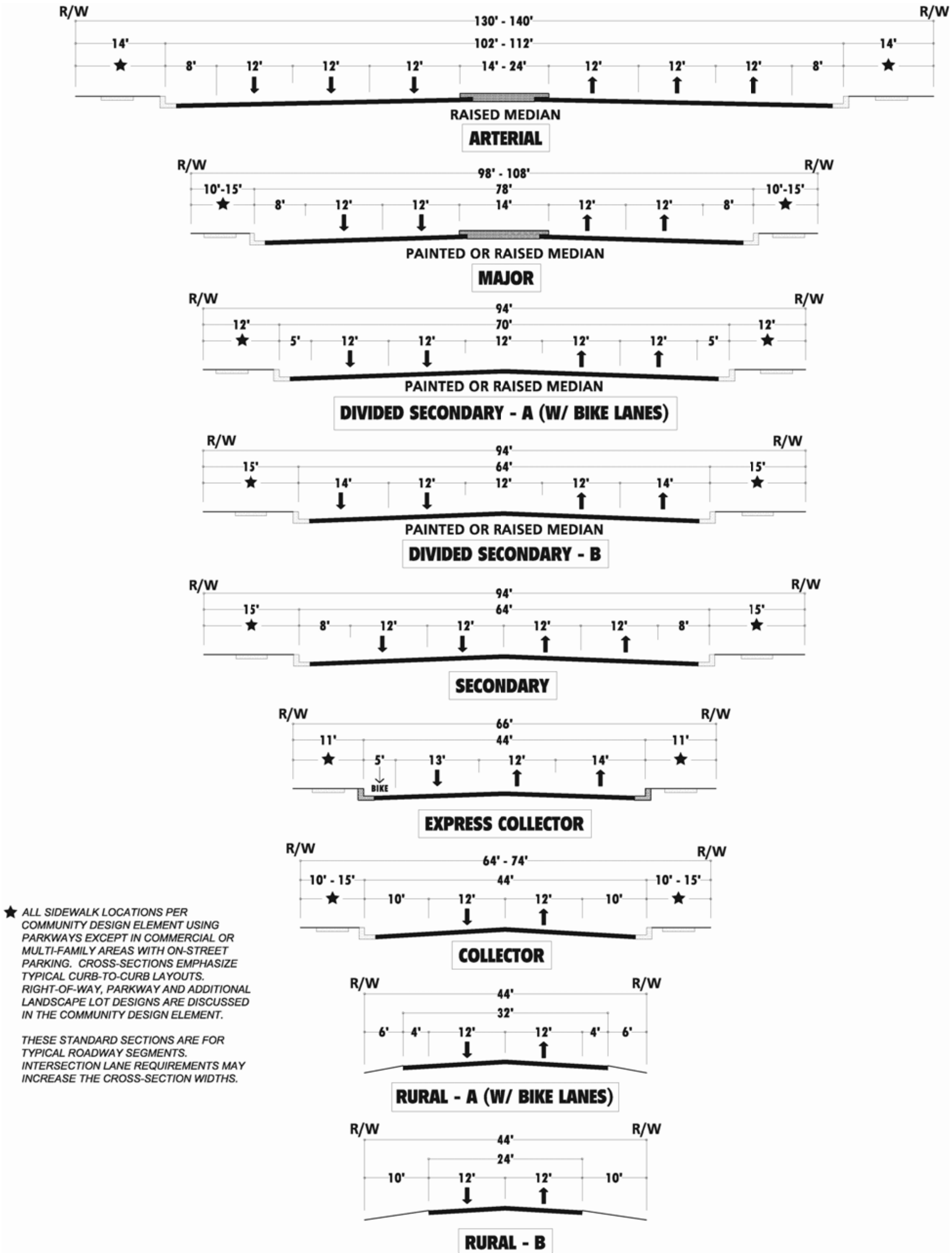
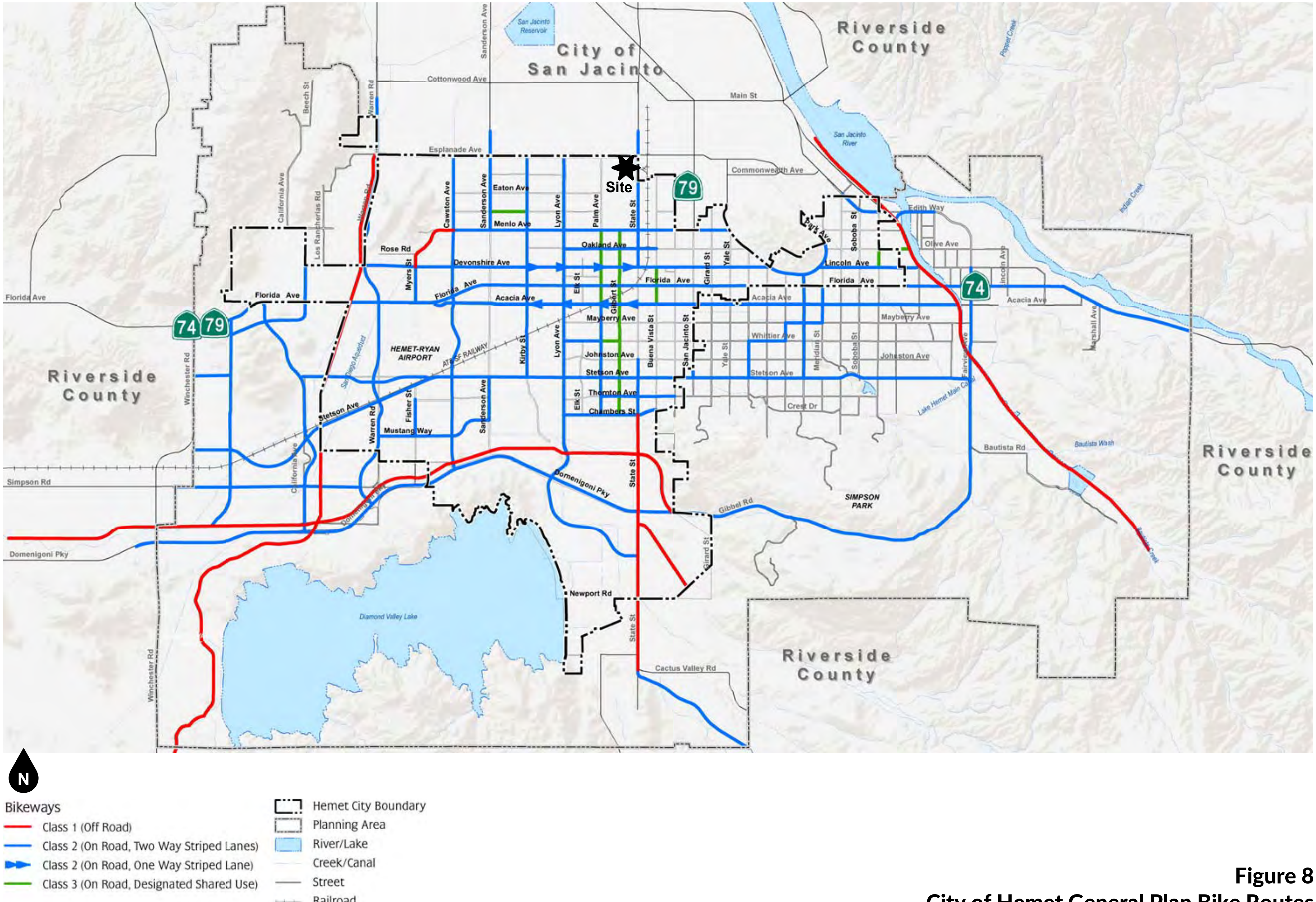


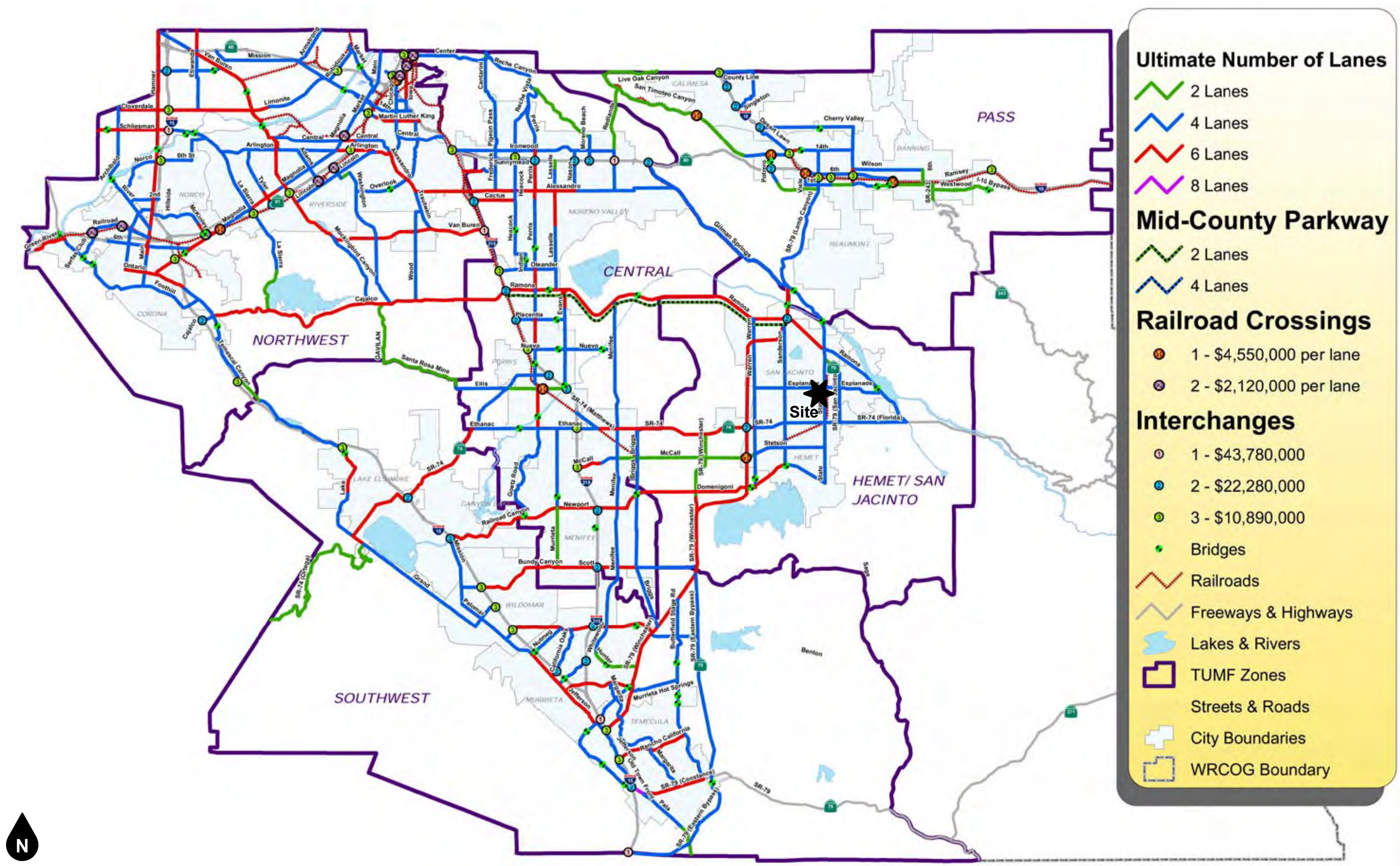
Figure 7
City of Hemet General Plan Roadway Cross-Sections

Source: City of Hemet



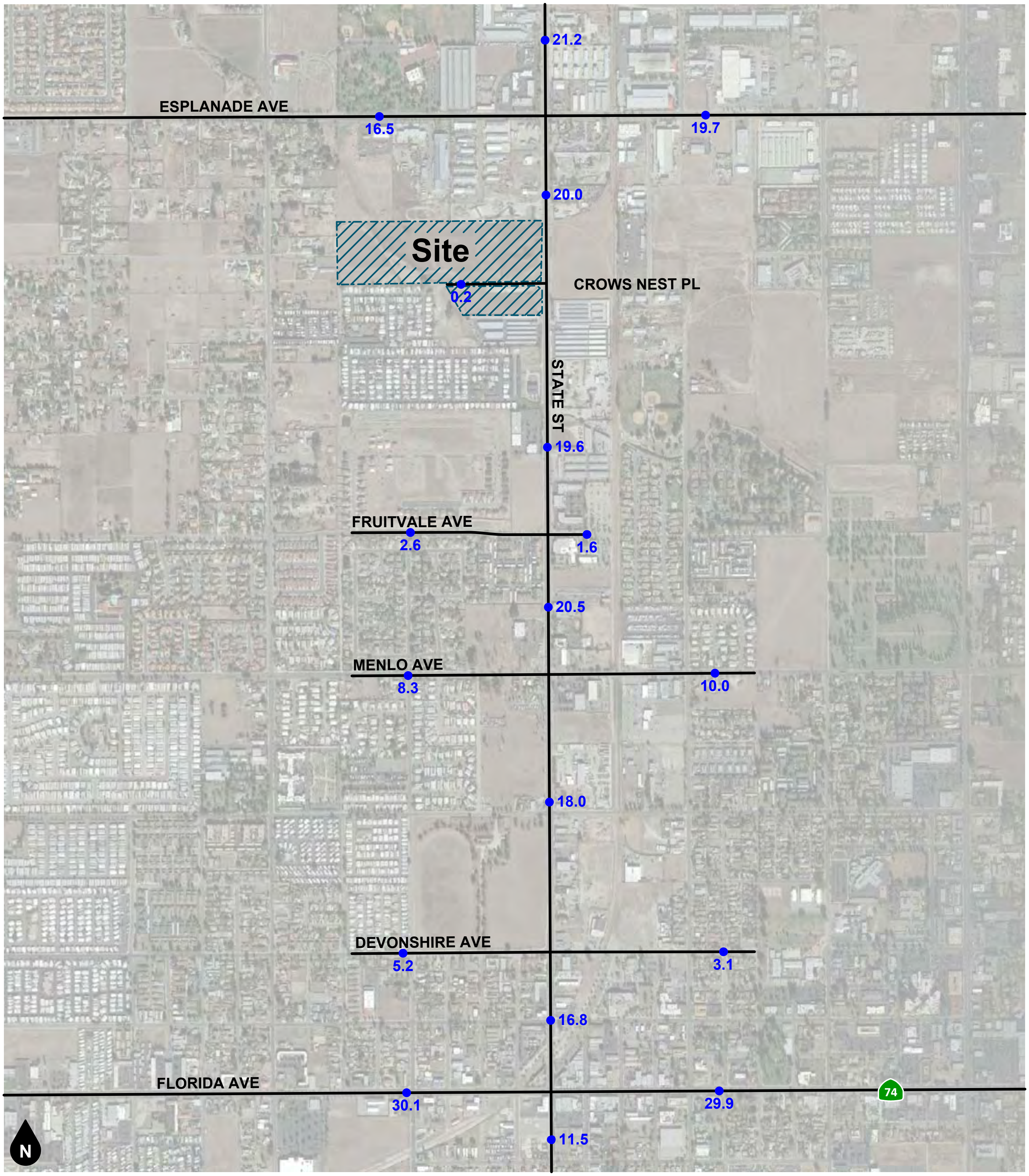
Source: City of Hemet

Figure 8
City of Hemet General Plan Bike Routes



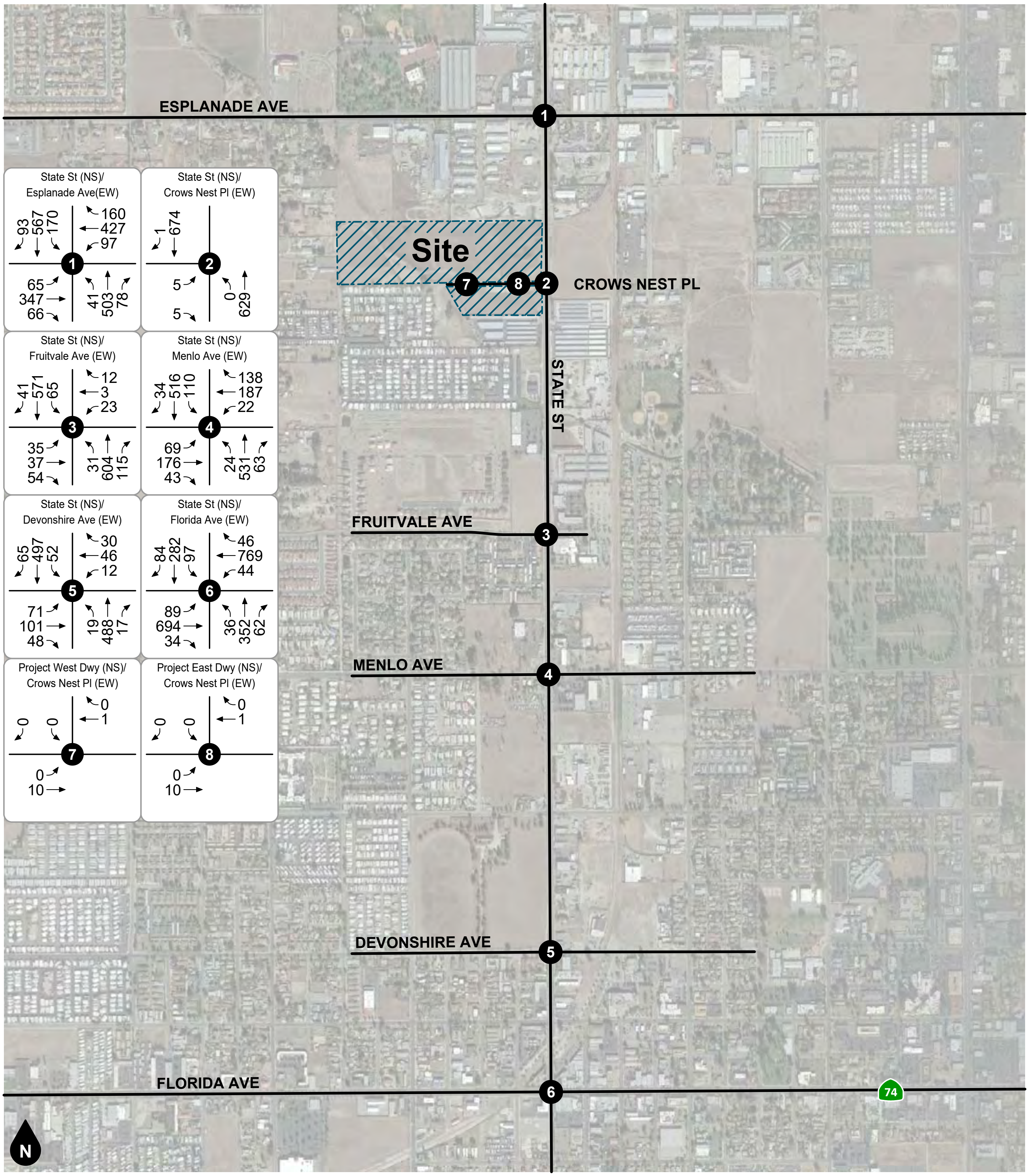
Source: City of Hemet

Figure 9
City of Hemet General Plan Roadway Truck Routes



Legend
●## Vehicles Per Day (1,000's)

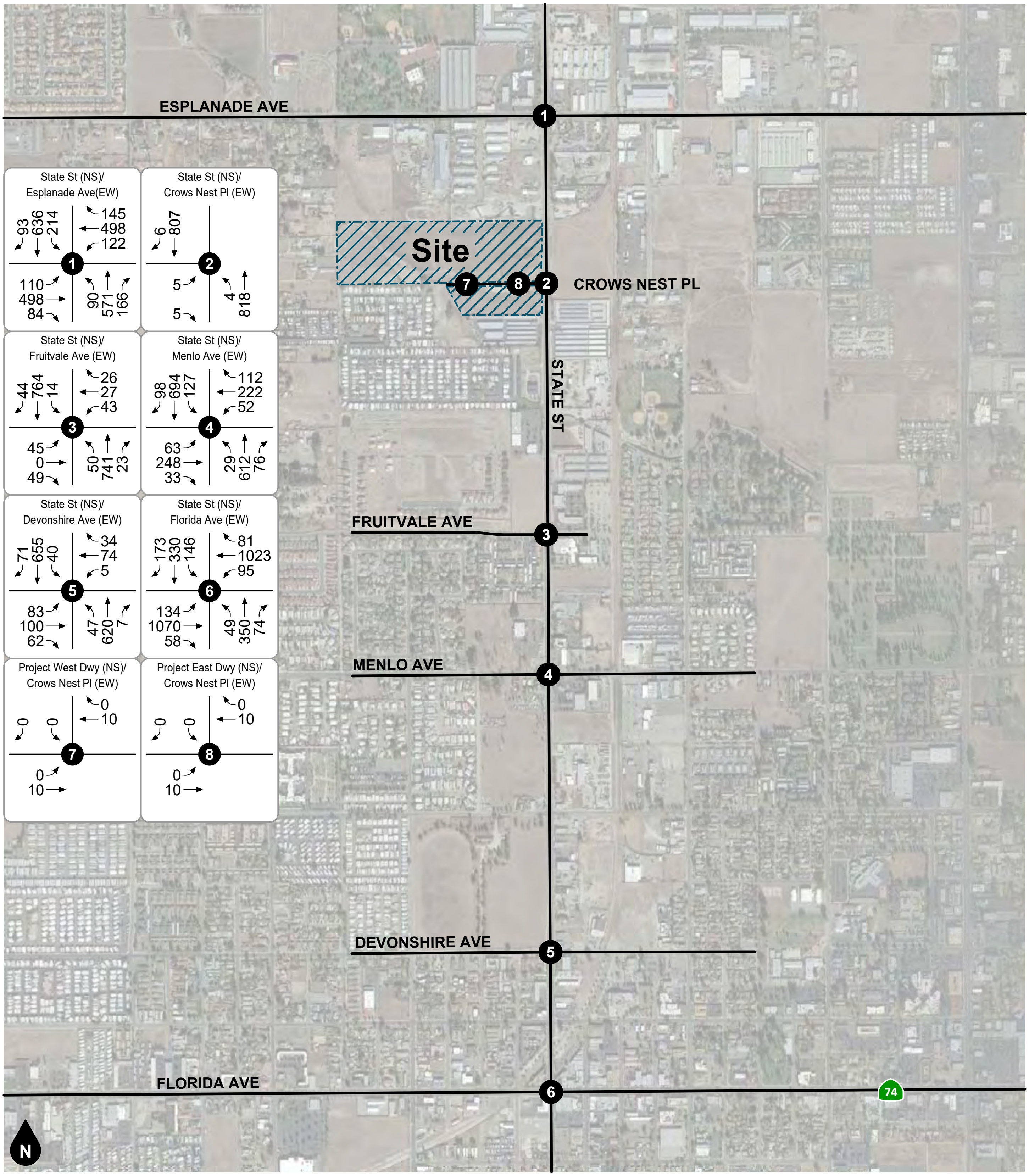
Figure 10
Existing Average Daily Traffic Volumes



Legend

Study Intersection

Figure 11
Existing AM Peak Hour Intersection Turning Movement Volumes



Legend

\# Study Intersection

Figure 12
Existing PM Peak Hour Intersection Turning Movement Volumes

4. PROJECT TRIP FORECASTS

This section describes how project trip generation, trip distribution, and trip assignment forecasts were developed. The forecast project volumes are illustrated on figures contained in this section.

PROJECT TRIP GENERATION

Table 2 shows the project trip generation based upon trip generation rates obtained from the Institute of Transportation Engineers Trip Generation Manual (10th Edition, 2017) Land Use Codes 140. The total number of vehicle trips forecast to be generated by the proposed project is determined by multiplying the trip generation rates by the land use quantities.

Passenger Car Equivalent Adjustment

The project-generated vehicle trips were then separated into passenger cars and trucks (by number of axles) and converted to Passenger Car Equivalent (PCE) trips based upon car-truck percentages obtained from the City of Fontana Truck Trip Generation Study (August 2003). The total percentage of truck trips for manufacturing land use was obtained from the City of Fontana Truck Trip Generation Study for the light industrial land use. The total number of truck trips are converted into PCE trips based on PCE factors recommended by the County of San Bernardino Congestion Management Program (1.5 PCEs for 2-axle trucks, 2.0 PCEs for 3-axle trucks, and 3.0 PCEs for trucks with 4 or more axles).

As shown in Table 2, Project Phase 1 is forecast to generate a total of approximately 439 daily vehicle trips, including 70 vehicle trips during the AM peak hour and 75 vehicle trips during the PM peak hour. In PCE trips, Project Phase 1 is forecast to generate a total of approximately 564 daily PCE trips, including 106 PCE trips during the AM peak hour and 99 PCE trips during the PM peak hour.

As also shown in Table 2, completion of the proposed project is forecast to generate a total of approximately 983 daily vehicle trips, including 156 vehicle trips during the AM peak hour and 168 vehicle trips during the PM peak hour. In PCE trips, completion of the proposed project is forecast to generate a total of approximately 1,262 daily PCE trips, including 237 PCE trips during the AM peak hour and 220 PCE trips during the PM peak hour.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Figure 13 and Figure 14 show the forecast directional distributions of the project generated passenger car and truck trips. Passenger car trips are generally more localized with residential or commercial origin/destination points, whereas truck trips generally have a more regional distribution travelling to/from other industrial uses or ports/terminals via the freeway. The project trip distribution patterns are based on review of existing volume data, surrounding land uses, designated truck routes, and the local and regional roadway facilities in the project vicinity.

Based on the identified project trip generation and distributions, project average daily traffic volumes have been calculated and shown on Figure 15. The project AM and PM peak hour intersection turning movement volumes for fully operational completion Year (2024) conditions are depicted on Figure 16 and Figure 17, respectively.

PROJECT CONSTRUCTION TRIPS

Compared to the project trip generation, trip generation associated with construction of the proposed project is forecast to be temporary and lower than trips generated upon completion. In general, site development would require the use of haul trucks during site clearing and excavation and the use of a variety of other construction vehicles throughout the construction work at the site. The project is required to comply with all

City of Hemet standard conditions pertaining to construction, including work hours, traffic control plan, haul route, access, oversized-vehicle transportation permit, site security, noise, vehicle emissions and dust control. Use of oversized vehicles will require the appropriate transportation permit.

A construction work (temporary) traffic control plans are required by State law in accordance with the standards set forth in the California Manual of Uniform Traffic Control Devices (2014), and shall be submitted to the City of Hemet prior to the issuance of a grading permit or the start of construction. The plan shall identify any roadway, sidewalk, bike route, or bus stop closure and/or detour as well as haul routes and hours of operation. Whenever possible, construction related truck trips should be restricted to off-peak hours, to the extent that conditions permit.

Table 2
Project Trip Generation

Land Use/Vehicle Type	Source[1]	Trip Generation Rates per TSF[2]						
		AM Peak Hour			PM Peak Hour			
		% In	% Out	Total	% In	% Out	Total	Daily
Manufacturing	ITE 140	77%	23%	0.62	31%	69%	0.67	3.93
Percent Cars	[a]	--	--	60.53%	--	--	76.83%	78.60%
Percent Trucks	[a]	--	--	39.47%	--	--	23.17%	21.40%
Car Trips per TSF		0.289	0.086	0.375	0.160	0.355	0.515	3.089
Truck Trips per TSF		0.188	0.056	0.244	0.048	0.107	0.155	0.841
Truck Breakdown by Axle	Percent[3]							
2-Axle Trucks	32.70%	0.061	0.018	0.079	0.016	0.035	0.051	0.275
3-Axle Trucks	17.90%	0.034	0.010	0.044	0.009	0.019	0.028	0.151
4+ Axle Trucks	49.40%	0.093	0.028	0.121	0.024	0.053	0.077	0.415

Vehicle Trips Generated								
		AM Peak Hour			PM Peak Hour			
Land Use/Vehicle Type	Quantity (TSF)	In	Out	Total	In	Out	Total	Daily
Manufacturing	250.000							
Cars		72	22	94	40	89	129	772
Trucks								
2-Axle Trucks		15	5	20	4	9	13	69
3-Axle Trucks		9	3	11	2	5	7	38
4+ Axle Trucks		23	7	30	6	13	19	104
Subtotal Trucks		47	15	61	12	27	39	211
Subtotal Phase 1	111.750	53	17	70	23	52	75	439
Subtotal Phase 2	138.250	66	20	86	29	64	93	544
TOTAL VEHICLE TRIPS GENERATED		**119**	**37**	**156**	**52**	**116**	**168**	**983**

Passenger Car Equivalent (PCE) Trips Generated								
		AM Peak Hour			PM Peak Hour			
Land Use/Vehicle Type	Quantity (TSF)	In	Out	Total	In	Out	Total	Daily
Manufacturing	250.000							
Cars		72	22	94	40	89	129	772
Trucks	PCE Factor[4]							
2-Axle Trucks	1.5	23	7	30	6	13	19	103
3-Axle Trucks	2.0	17	5	22	5	9	14	76
4+ Axle Trucks	3.0	70	21	91	18	40	58	311
Subtotal Trucks	--	110	33	143	29	62	91	490
Phase 1 (Cars)	111.750	32	10	42	18	40	58	345
Phase 1 (Trucks)		49	15	64	13	28	41	219
Subtotal Phase 1		81	25	106	31	68	99	564
Phase 2 (Cars)	138.250	40	12	52	22	49	71	427
Phase 2 (Trucks)		61	18	79	16	34	50	271
Subtotal Phase 2		101	30	131	38	83	121	698
TOTAL VEHICLE TRIPS GENERATED		**182**	**55**	**237**	**69**	**151**	**220**	**1,262**

Notes:

(1) Source:

ITE = Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017, Land Use Code ### (page 40 to 41).
[a] City of Fontana, Truck Trip Generation Study, August 2003. Light industrial values used for manufacturing (page 13 and 22).

(2) TSF = Thousand Square Feet

(3) Truck by axle percentages obtained from City of Fontana, Truck Trip Generation Study, August 2003.

(4) PCE factors recommended by County of San Bernardino Congestion Management Program.

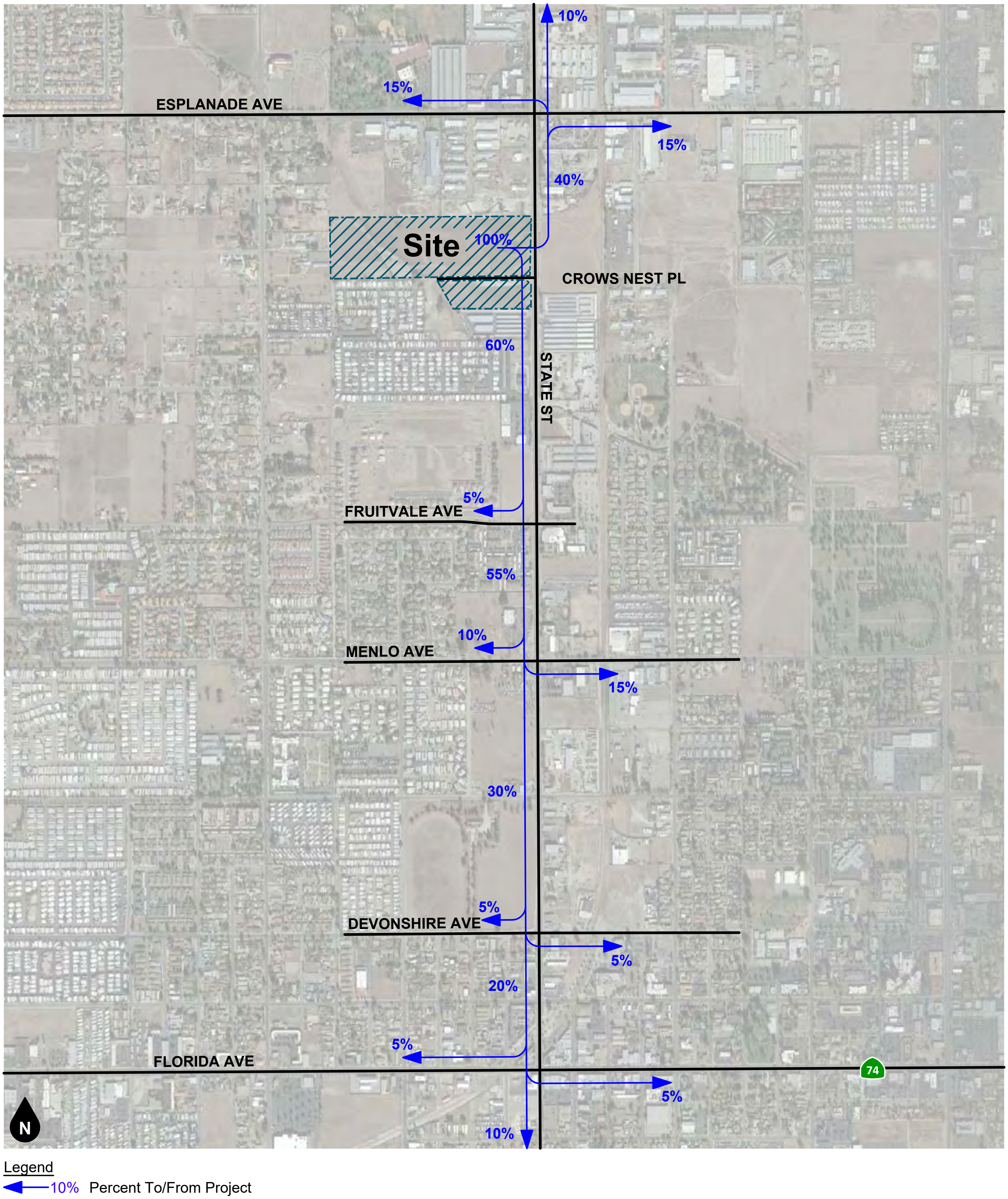


Figure 13
Project Trip Distribution - Car

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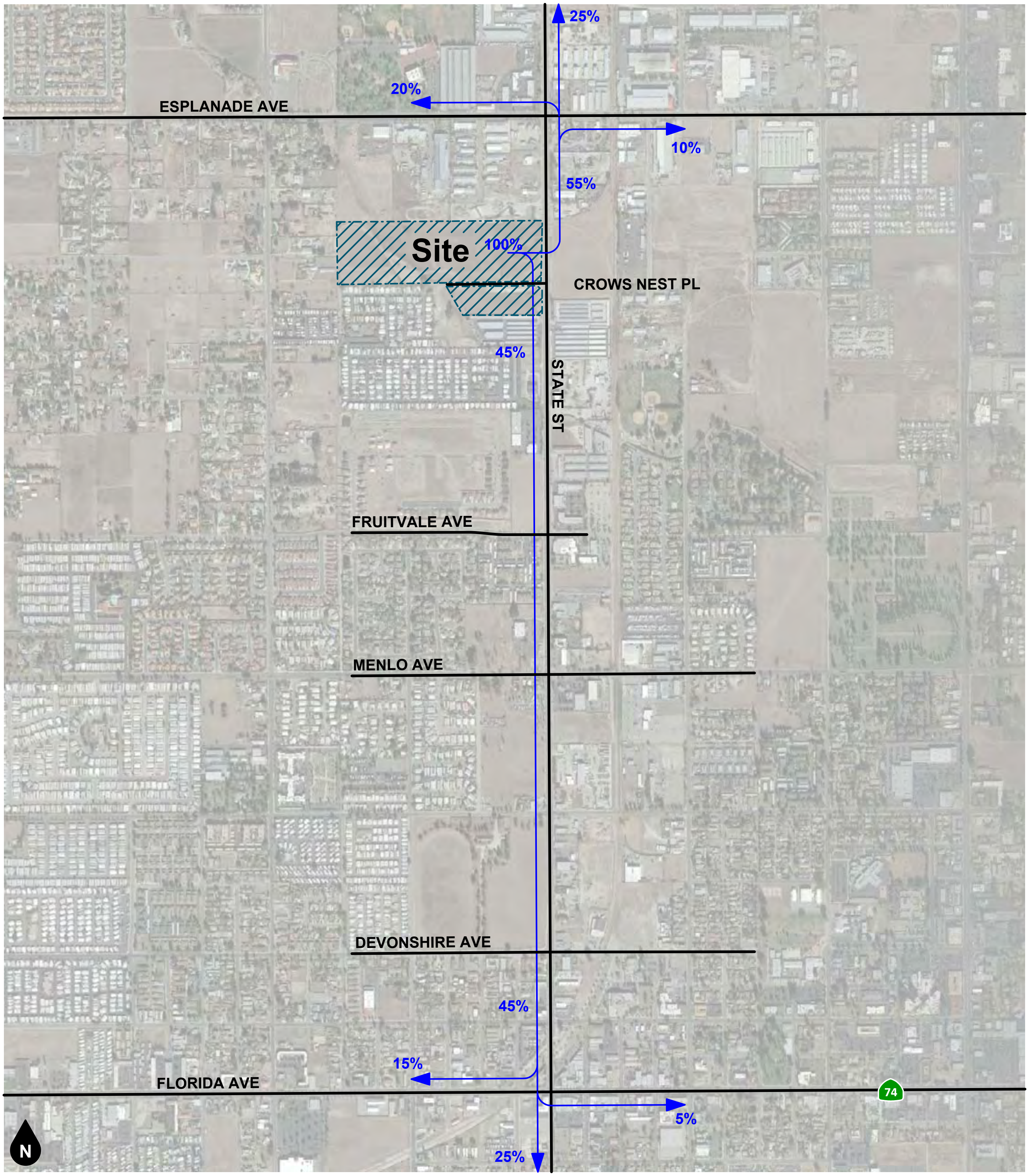
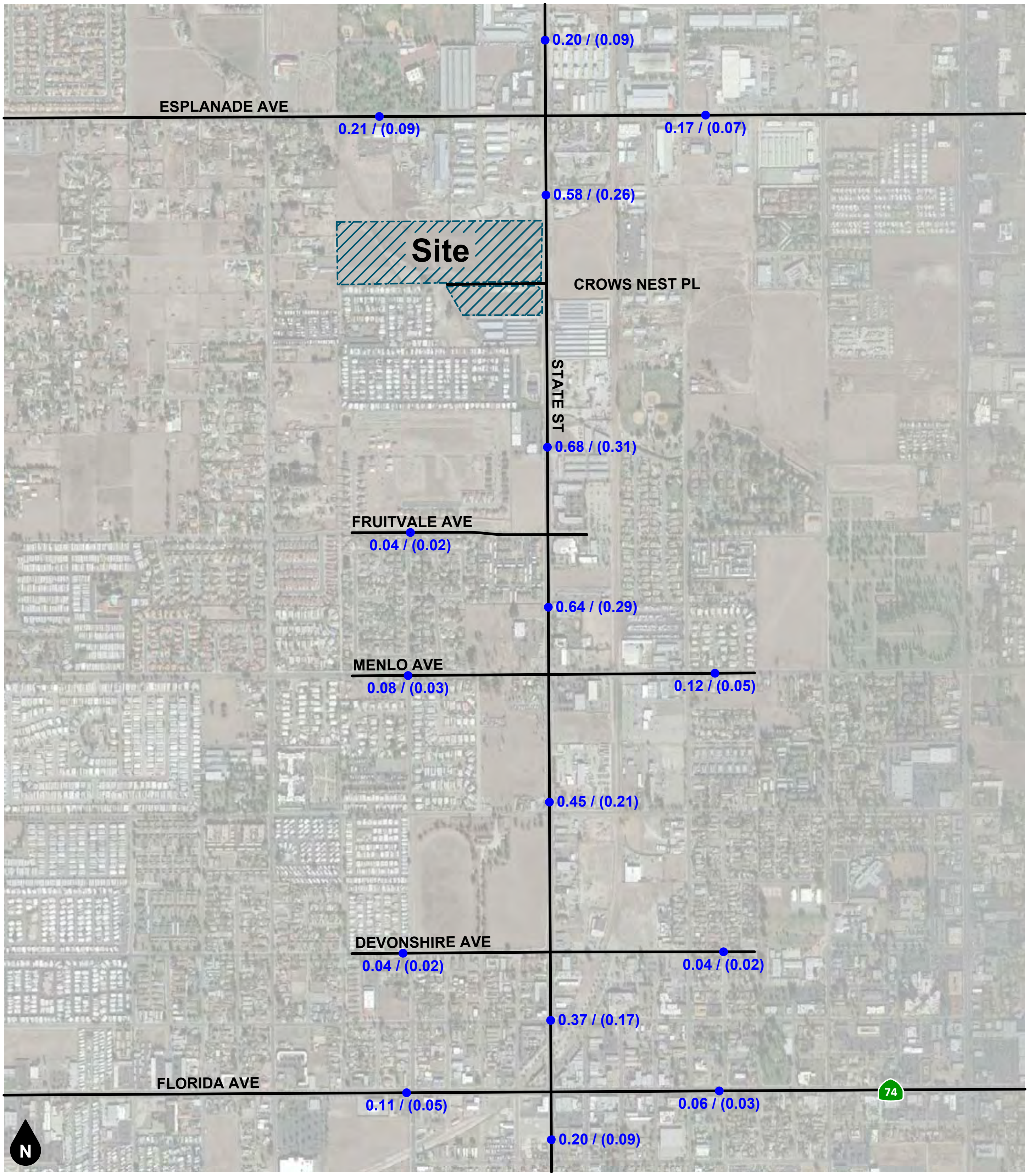


Legend
10% Percent To/From Project

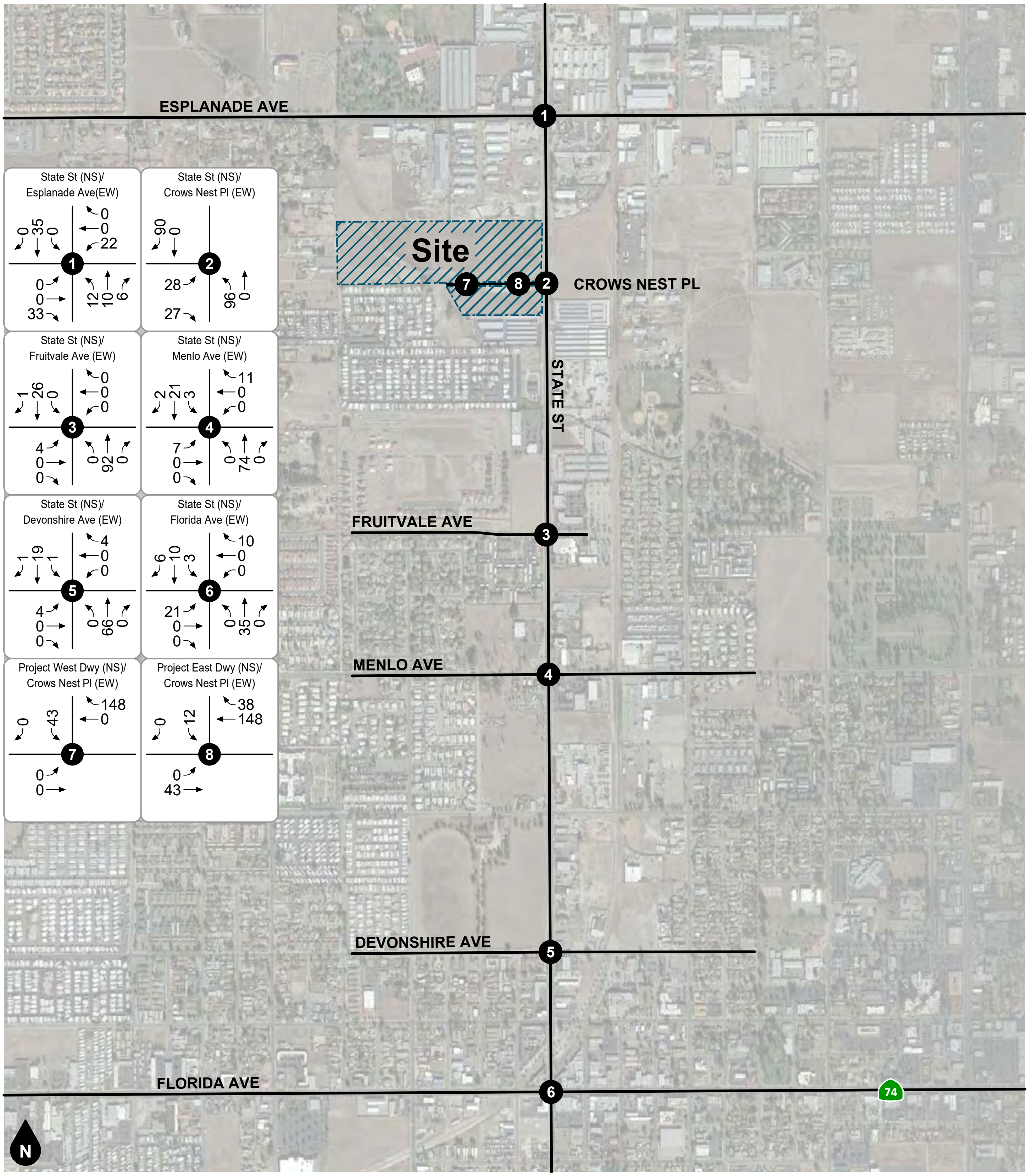
Figure 14
Project Trip Distribution - Truck

S2A Modular Manufacturing
Traffic Impact Analysis
19-0164



Legend
●## Vehicles Per Day (1,000's)
(Phase 1) / Phase 2 Buildout

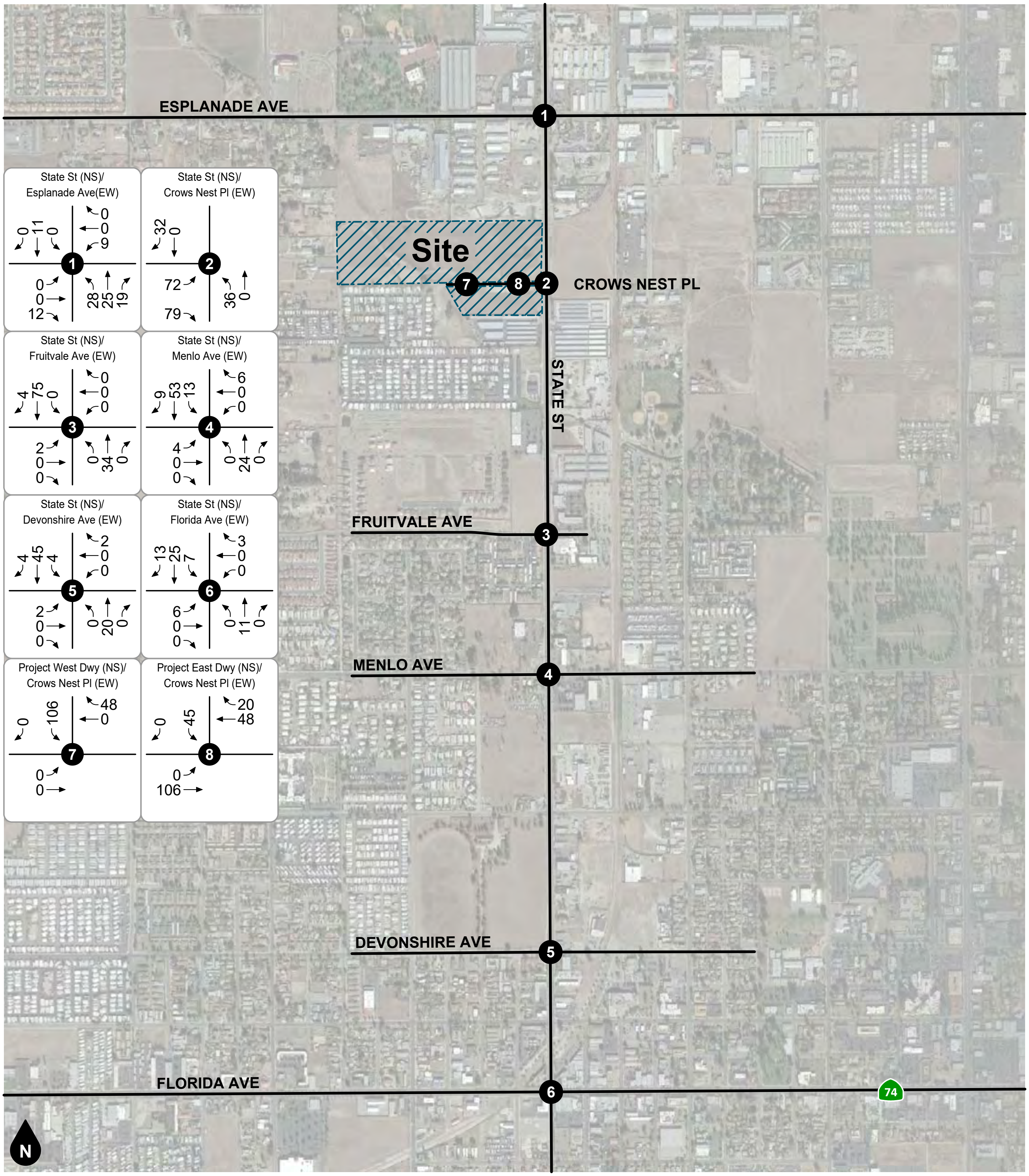
Figure 15
Project Average Daily Traffic Volumes



Legend

Study Intersection

Figure 16
Project AM Peak Hour Intersection Turning Movement Volumes



Legend
Study Intersection

Figure 17
Project PM Peak Hour Intersection Turning Movement Volumes

5. FUTURE VOLUME FORECASTS

This section describes how future volume forecasts for each analysis scenario were developed. Forecast study area volumes are illustrated on figures contained in this section.

OPENING YEAR (2021) PROJECTIONS

The Opening Year (2021) volume forecasts were developed by adding regional ambient growth, project trips, and other development trips to existing volumes.

Ambient Growth Rate

To account for ambient growth on roadways, existing traffic volumes were increased by a growth rate of two percent (2%) per year. For Opening Year (2021) conditions, ambient growth is over two (2) years and equates to a total growth factor of approximately 1.04. The ambient growth rate was conservatively applied to all movements at the study intersections.

Other Development

To account for trips generated by future development, trips generated by pending or approved other development projects in the of City of Hemet were added to the study area. The regional ambient growth is assumed to account for any additional trips generated by other developments projects located outside the project vicinity and not specifically listed in this report. Table 3 shows the trip generation summary for other development projects. Figure 18 shows the other development location map.

Figure 19 shows the forecast average daily traffic volumes for the other developments. Figure 20 and Figure 21 show the forecast AM and PM peak hour intersection turning movement volumes for trips generated by other developments in opening year (2021).

COMPLETION YEAR (2024) PROJECTIONS

Similarly, the Completion Year (2024) volume forecasts were developed by adding regional ambient growth, project trips, and other development trips to existing volumes. For Completion Year (2024) conditions, ambient growth is over five (5) years and equates to a total growth factor of approximately 1.10.

ANALYSIS SCENARIO VOLUME FORECASTS

Existing Plus Project

Existing Plus Project volume forecasts were derived by adding the project-generated trips to Existing volumes. Existing Plus Project average daily traffic volumes are shown on Figure 22. Existing Plus Project AM and PM peak hour intersection turning movement volumes are shown on Figure 23 and Figure 24.

Opening Year (2021) Plus Project (EAGP)

To develop Opening Year (2021) Plus Project (EAGP) volume forecasts, Existing volumes were combined with ambient growth and trips generated by the proposed project. Opening Year (2021) Plus Project (EAGP) average daily traffic volumes are shown on Figure 25. Opening Year (2021) Plus Project (EAGP) AM and PM peak hour intersection turning movement volumes are shown Figure 26 and Figure 27.

Opening Year (2021) Plus Project Plus Cumulative (EAGPC)

Opening Year (2021) Plus Project Plus Cumulative (EAGPC) volumes were developed by adding other development trips to the Opening Year (2021) Plus Project (EAGP) forecast volumes. Opening Year (2021) Plus Project Plus Cumulative (EAGPC) average daily traffic volumes are shown on Figure 28. Opening Year (2021) Plus Project Plus Cumulative (EAGPC) AM and PM peak hour intersection turning movement volumes are shown on Figure 29 and Figure 30.

Completion Year (2024) Plus Project (EAGP)

To develop Completion Year (2024) Plus Project (EAGP) volume forecasts, Existing volumes were combined with ambient growth and trips generated by the proposed project. Completion Year (2024) Plus Project (EAGP) average daily traffic volumes are shown on Figure 31. Completion Year (2024) Plus Project (EAGP) AM and PM peak hour intersection turning movement volumes are shown Figure 32 and Figure 33.

Completion Year (2024) Plus Project Plus Cumulative (EAGPC)

Completion Year (2024) Plus Project Plus Cumulative (EAGPC) volumes were developed by adding other development trips to the Completion Year (2024) Plus Project (EAGP) forecast volumes. Completion Year (2024) Plus Project Plus Cumulative (EAGPC) average daily traffic volumes are shown on Figure 34. Completion Year (2024) Plus Project Plus Cumulative (EAGPC) AM and PM peak hour intersection turning movement volumes are shown on Figure 35 and Figure 36.

Table 3 (1 of 2)
Cumulative Other Development Trip Generation

City/ County	ID	Project No./Address/Name	Land Use	Source[1]	Quantity	Units[2]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
City of Hemet	1	CUP 18-005	Car Sales (Used)	841	2.560	TSF	4	1	5	5	5	10	69
	2	SDR 18-001 The Hideaway	Single-Family Detached	210	71	DU	13	40	53	44	26	70	670
	3	SDR 15-001 Sante Fe Point	Multi-Family Residential	220	50	DU	5	18	23	18	10	28	366
	4	CUP18-006 Page Plaza Starbucks[5]	Coffee Shop with Drive-thru	937	2.500	TSF	113	109	222	54	54	108	2,051
		NWC Sanderson Ave/Thornton Ave	Fast Food with Drive-thru	934	3.700	TSF	76	73	149	63	58	121	1,743
	5		Gas Station Convenience Store	945	16	FP	102	98	200	114	110	224	3,286
		CUP16-008 Shop N Go Plaza[5]	Fast Food with Drive-thru	934	3.278	TSF	67	65	132	56	51	107	1,544
		SWC Sanderson Ave/Fruitvale Ave	Pharmacy with Drive-Thru	881	17.500	TSF	36	31	67	90	90	180	1,910
	6	ZC15-001 Sanderson Apartments[5]	Multi-Family Residential	220	139	DU	15	49	64	49	29	78	1,017
	7	ZC15-002 TTM36929 (BNR)[5]	Single-Family Detached	20	71	DU	13	40	53	44	26	70	670
	8	TTM 36891-36892 River Oaks[6] SEC/SWC Elk Street/Thornton Ave	Single-Family Detached	210	158	DU	29	88	117	99	57	156	1,492
	9	CUP17-004 TTM37421 Rancho McHolland Retail[7]	Gas Station Convenience Store	945	12	FP	76	74	150	86	82	168	2,464
		SEC Sanderson Ave / Stetson Ave	Carwash	DATA	120	LF	30	25	55	46	49	95	1,014
	10		Single-Family Detached	210	586	DU	108	326	434	365	215	580	5,532
		TTM 36841 Rancho Diamante Ph2 SP	Park	411	64.89	AC	1	0	1	4	3	7	51
		SWC Warren Rd / Stetson Ave (future)	Commercial Retail	820	19.67	AC	11	7	18	36	39	75	743
	11		Gas Station Convenience Store	945	20.000	TSF	127	122	249	143	137	280	4,107
		CUP 16-006 Zanderson Plaza[8]	Fast Food with Drive-thru	934	15.250	TSF	313	300	613	259	239	498	7,182
		NEC Sanderson Ave/Menlo Ave	Shopping Center	820	42.230	TSF	25	15	40	77	84	161	1,594
			Trip Credits Pass-by				-178	-173	-351	-179	-174	-353	-4,183
	12		Single-Family Detached	210	15	DU	3	8	11	9	6	15	142
			Multi-Family Residential	220	161	DU	17	57	74	57	33	90	1,179
		Downtown Hemet Specific Plan[9]	Commercial	820	90.780	TSF	53	32	85	166	180	346	3,427
		Gilbert to Sante Fe Street / Oakland to Acacia Ave	General Office Building	710	151.327	TSF	151	25	176	28	146	174	1,474
			Trip Credits Existing Land Uses				-121	-96	-217	-108	-137	-245	-2,221
	13		Residential		954	DU	95	395	491	321	160	481	5,030
			Elementary School (K-6)		750	STU	158	129	287	45	51	96	822
			General Office		113.256	TSF	181	20	202	24	153	177	1,162
		SP12-001 (Ramona Creek)	Junior/Community College		166.000	TSF	349	123	472	232	169	401	4,335
			Shopping Center		113.256	TSF	198	118	317	406	427	833	13,605
			Passive Park		25.9	AC	3	3	5	2	2	4	41
			Community Park		11.2	AC	36	36	73	25	25	50	560
			Internal Capture				-102	-83	-185	-106	-98	-204	-2,556
	14	SP 06-04 Florida Promenade	Commercial	820	100.000	TSF	217	61	278	97	249	346	3,480
	15		Senior Adult Housing Attached	252	440	DU	31	57	88	63	51	114	1,628
		SP-06 Florida Promenade Residential	Single-Family Detached	210	145	DU	27	80	107	90	54	144	1,369
	16	TTM 29581 Covenant	Single-Family Detached	210	71	DU	13	40	53	44	26	70	670
	17	TTM 31064 Kirby	Single-Family Detached	210	73	DU	14	40	54	46	26	72	689
	18	TTM 37087	Single-Family Detached	210	20	DU	4	11	15	12	8	20	189
	19	SandFruit Shopping Center	Commercial	820	92.000	TSF	54	32	86	168	183	351	3,473
	20	Skilled Nursing Facility	Assisted Living Facility	254	106.180	TSF	32	9	41	15	36	51	445
	21	TTM 33858	Single-Family Detached	210	37	DU	7	20	27	23	14	37	349
	22		Senior Adult Housing Attached	252	96	DU	7	12	19	14	11	25	355
			Assisted Living Facility	254	137	BEDS	16	10	26	14	22	36	356
		SP 11-01 North Hemet Revitalization Plan	General Office Building	710	16.340	TSF	16	3	19	3	16	19	159
			Commercial	820	118.920	TSF	69	43	112	217	236	453	4,489
			Multi-Family Residential	220	333	DU	35	118	153	117	69	186	2,438
			Internal Capture				-14	-19	-33	-37	-35	-72	-780
	23	Copenhagen Village Condo/Thome	Multi-Family Residential	220	40	DU	4	14	18	14	8	22	293
	24	CUP 03-16A /TTM 33707 Devonshire Partners	Single-Family Detached	210	73	DU	14	40	54	46	26	72	689
	25	CUP 07-26 Cawston Plaza	Commercial	826	21.000	TSF	5	3	8	4	5	9	261
	26	CUP06-004 The Boardwalk	Commercial	820	74.000	TSF	160	46	206	72	184	256	2,575
	27	SDR15-004 KPC Towne Center	Commercial	820	54.000	TSF	31	20	51	99	107	206	2,039
	28	SRD14-002 Pension Del Sol	Senior Adult Housing Attached	252	120	DU	8	16	24	17	14	31	444
	29	CUP16-007 AAL Management	General Office Building	710	3.495	TSF	3	1	4	1	3	4	34
	30	Gas Station Expansions	Gas Station Convenience Store	945	6	FP	38	37	75	43	41	84	1,232
	32	CVS Pharmacy	Pharmacy		Not Specified								

Table 3 (2 of 2)
Cumulative Other Development Trip Generation

City/ County	ID	Project No./Address/Name	Land Use	Source[1]	Quantity	Units[2]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
City of Hemet	33	All For Show	Shopping Center	820	3.020	TSF	2	1	3	6	6	12	114
	34	Hallmark Apartments	Multi-Family Residential	220	33	DU	3	12	15	12	6	18	242
	35	CUP 08-14 Scripps West	Shopping Center	826	5.300	TSF	3	3	6	6	8	14	235
	36	Gas Station NWC Stanford/Florida	Gas / Service Station	944	6	FP	31	31	62	42	42	84	1,032
	37	TTM 36924	Single-Family Detached	210	58	DU	11	32	43	36	21	57	548
	38	TTM 36889-36890	Single-Family Detached	210	148	DU	27	83	110	92	55	147	1,397
	39	SP 05-03 Sanderson Square	Office/Industrial	770	186.700	TSF	46	29	75	36	42	78	2,323
			Commercial	820	243.000	TSF	142	86	228	444	482	926	9,173
	40	ZC 04-13 JAKS LLC	Commercial	820	170.000	TSF	99	61	160	311	337	648	6,418
	41	Paso Robles Tank	General Office Building	710	810.000	TSF	808	132	940	149	783	932	7,889
	42	SDR06-017 Los Olivos Condo/Thome	Multi-Family Residential	220	40	DU	4	14	18	14	8	22	293
	43	Hemet Metals & Alloys, LLC	General Industrial	110	29.360	TSF	18	3	21	2	16	18	146
	44	SP 07-4 Stetson Crossing	Commercial	820	189.000	TSF	110	68	178	346	374	720	7,135
	45	CUP 07-24 Hemet Medical Excellence	Medical Office	720	76.000	TSF	165	46	211	74	189	263	2,645
	46	CUP 08-07	Commercial	820	98.330	TSF	57	35	92	180	195	375	3,712
San Jacinto	50	NEC Sanderson Ave/7th Street[10]	Gas Station Convenience Store	945	12	FP	76	74	150	86	82	168	2,464
			Fast Food with Drive-thru	934	5.400	TSF	111	106	217	92	84	176	2,543
			Shopping Center	820	45.700	TSF	27	16	43	84	90	174	1,725
			Trip Credits Pass-by				-105	-98	-203	-123	-118	-241	-2,421
	51	TR33420A1	Single-Family Detached	210	161	DU	30	89	119	100	59	159	1,520
	52	CUP 2-08	Commercial	820	134.000	TSF	78	48	126	245	266	511	5,059
	53	TR34664	Single-Family Detached	210	35	DU	6	20	26	22	13	35	330
	54	SPDR-18-01 Baypoint Academy K-12	School	537	1053	STU	619	550	1,169	52	95	147	1,948
	55	TR22665	Single-Family Detached	210	79	DU	15	43	58	49	29	78	746
	56	SPDR 17-11	Retail/Fast Food/Gas	820	49.000	TSF	29	17	46	90	97	187	1,850
	57	SPDR 17-02 Retail Center	Grocer/Medical office	820	25.000	TSF	15	9	24	46	49	95	944
	58	SPDR 17-03 Starbucks	Coffee Shop with Drive-thru	937	2.000	TSF	91	87	178	43	44	87	1,641
	59	SPDR 17-04 Wiener schnitzel	Fast Food with Drive-thru	934	1.250	TSF	26	24	50	21	20	41	589
	60	TR30481	Single-Family Detached	210	34	DU	6	19	25	21	13	34	321
	61	TR33716	Single-Family Detached	210	49	DU	9	27	36	31	18	49	463
	62	TR32352	Single-Family Detached	210	47	DU	9	26	35	29	18	47	444
	63	TR31097	Single-Family Detached	210	214	DU	40	118	158	133	79	212	2,020
	64	TR32809	Multi-Family Residential	220	272	DU	29	96	125	96	56	152	1,991
	65	VTR31384	Single-Family Detached	210	47	DU	9	26	35	29	18	47	444
	66	TR32153	Single-Family Detached	210	44	DU	8	25	33	27	17	44	415
	67	SPDR 16-05 San Jacinto Valley Academy K-12	School	537	1,350	STU	794	705	1,499	66	123	189	2,498
TOTAL							6,246	5,435	11,681	6,745	7,377	14,122	158,034

Notes:

(1) Source: Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017, Land Use Code ###, unless otherwise noted. MU = Multi-use

[a] Pass-by rates obtained from ITE Trip Generation Handbook (3rd Edition, 2017).

[b] Internal capture rates calculated in accordance with procedures in the ITE Trip Generation Handbook (3rd Edition, 2017). The daily internal capture is equal to the sum of the AM and PM internal capture values; this provides a conservative estimate since internal capture would also occur during non-peak hours.

(2) TSF = Thousand Square Feet; STU = Students; DU = Dwelling Units; AC = Acres.

(3) Daily trips based on the average of other recreational uses Daily/PM ratio where the daily rates are generally (8 to 10 times) the PM rate.

(4) Daily trips based on the average of other school uses Daily/AM ratio where the daily rates are generally (2.8 to 3.0 times) the AM rate.

(5) City of Hemet Website. Planning Environmental Documents.

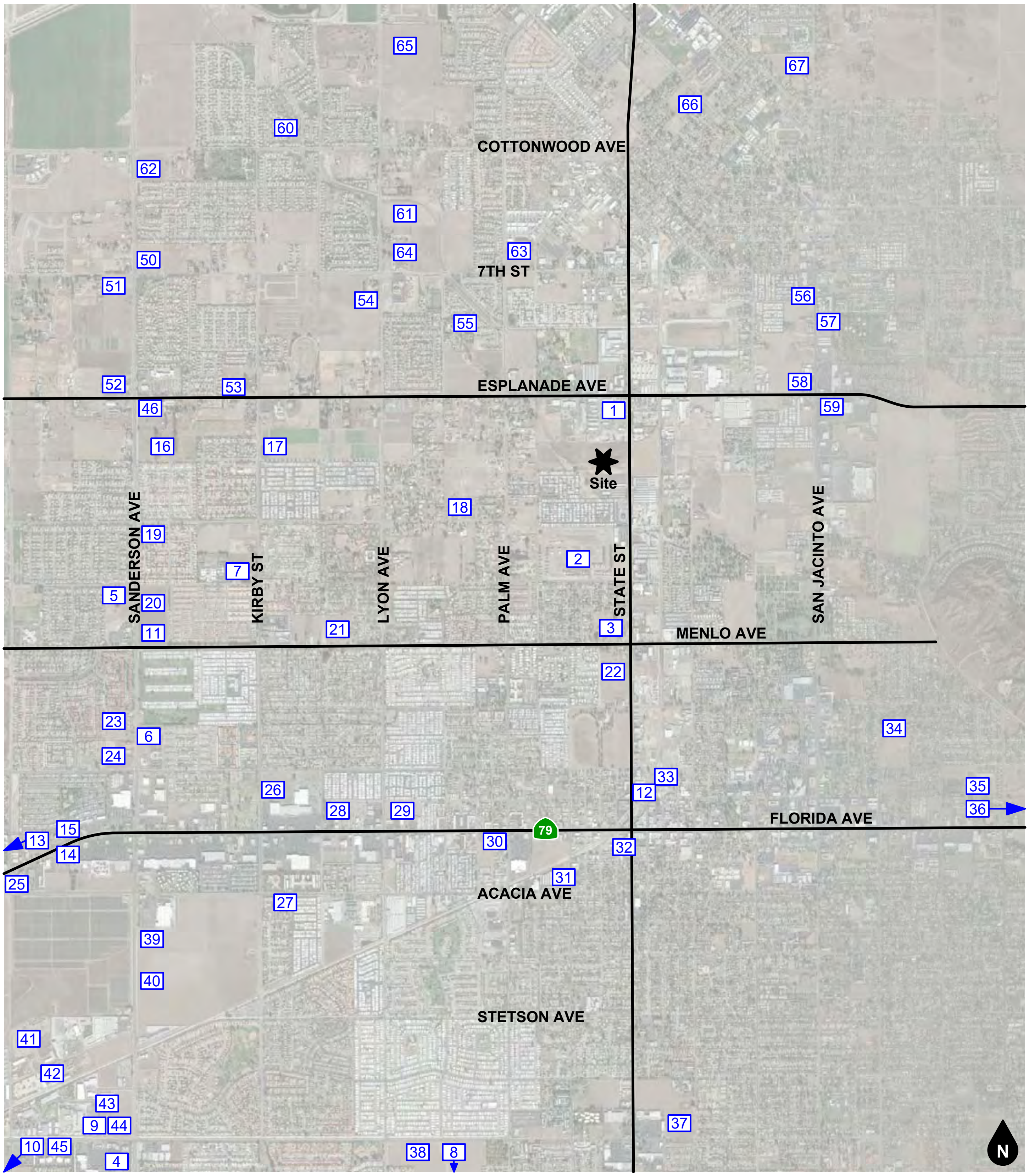
(6) Source: TTM 36891-36892 Traffic Impact Analysis, TJW Engineering., dated June 6, 2017

(7) Source: McHolland Retail Traffic Impact Analysis, Trames Solutions, Inc., dated

(8) Source: Downtown Hemet Specific Plan Traffic Impact Analysis, Kunzman & Associates, Inc., dated December 9, 2016

(9) Source: Zanderson Plaza Traffic Impact Analysis, Kunzman & Associates, Inc., dated June 20, 2017

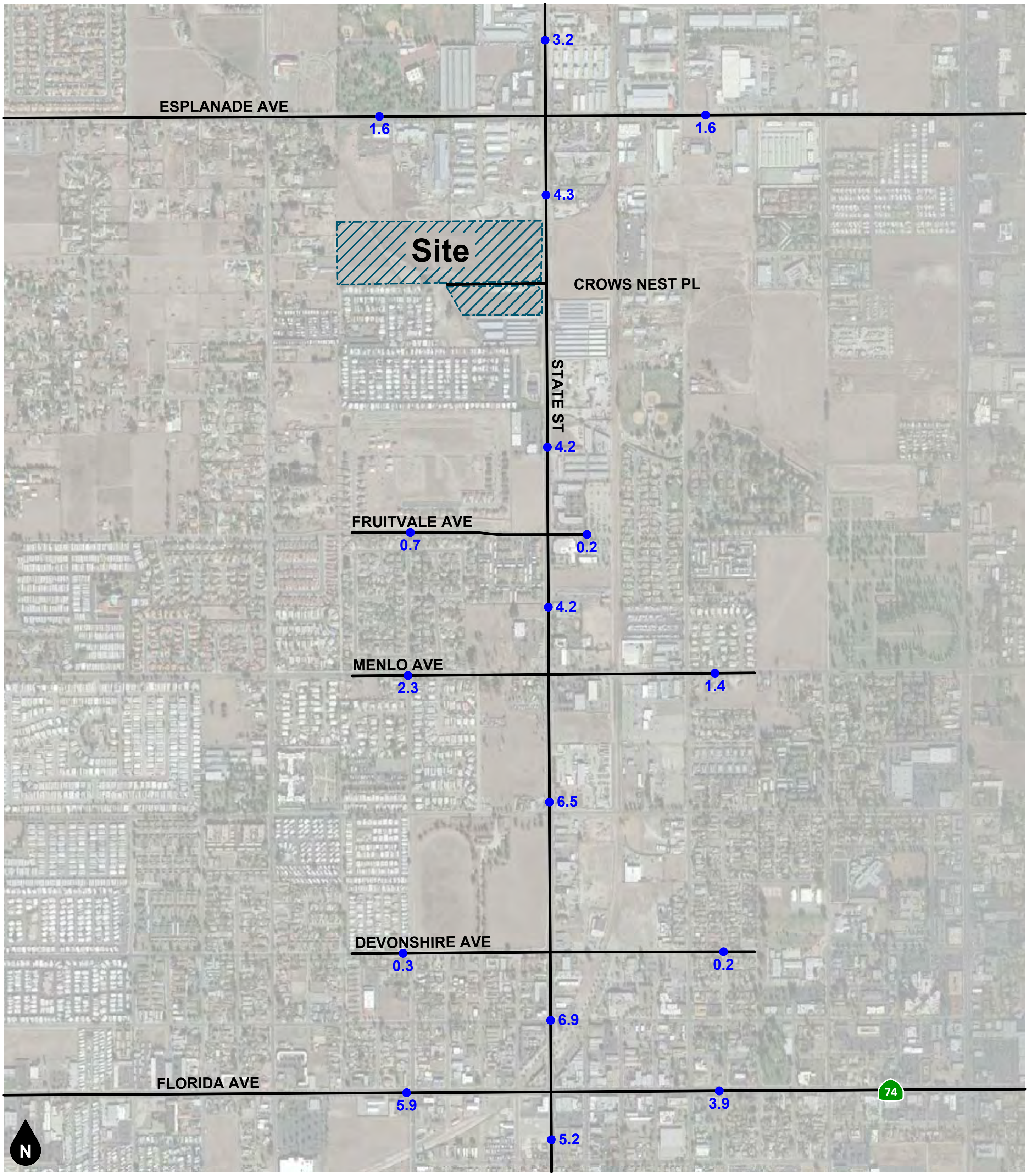
(10) Source: NEC Sanderson Ave/7th St Traffic Impact Analysis, TJW Engineering, May 2018



Legend

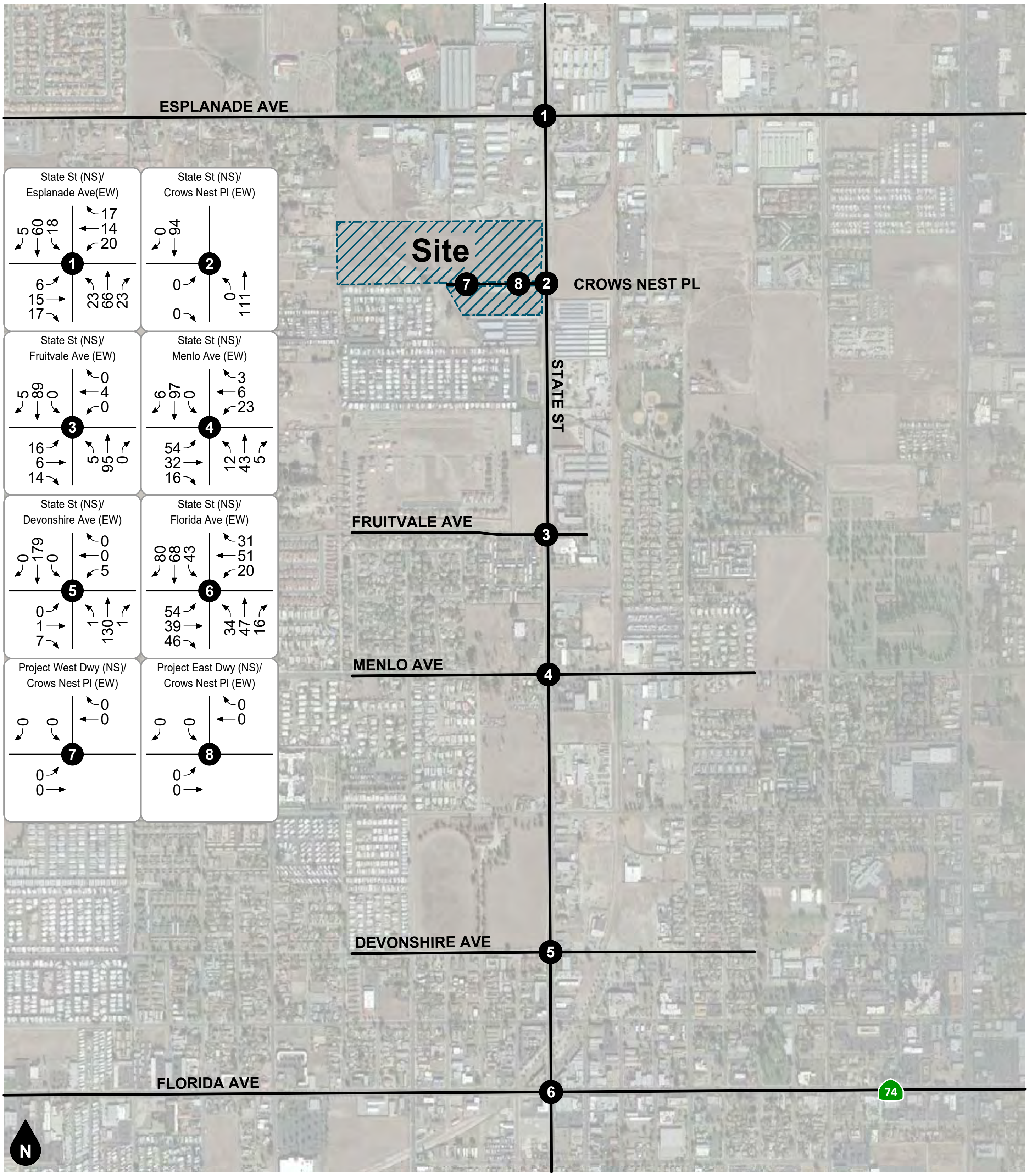
Traffic Analysis Zone

Figure 18
Other Development Location Map



Legend
●## Vehicles Per Day (1,000's)

Figure 19
Other Development Average Daily Traffic Volumes



Legend
Study Intersection

Figure 20
Other Development
AM Peak Hour Intersection Turning Movement Volumes

S2A Modular Manufacturing
Traffic Impact Analysis
19-0164

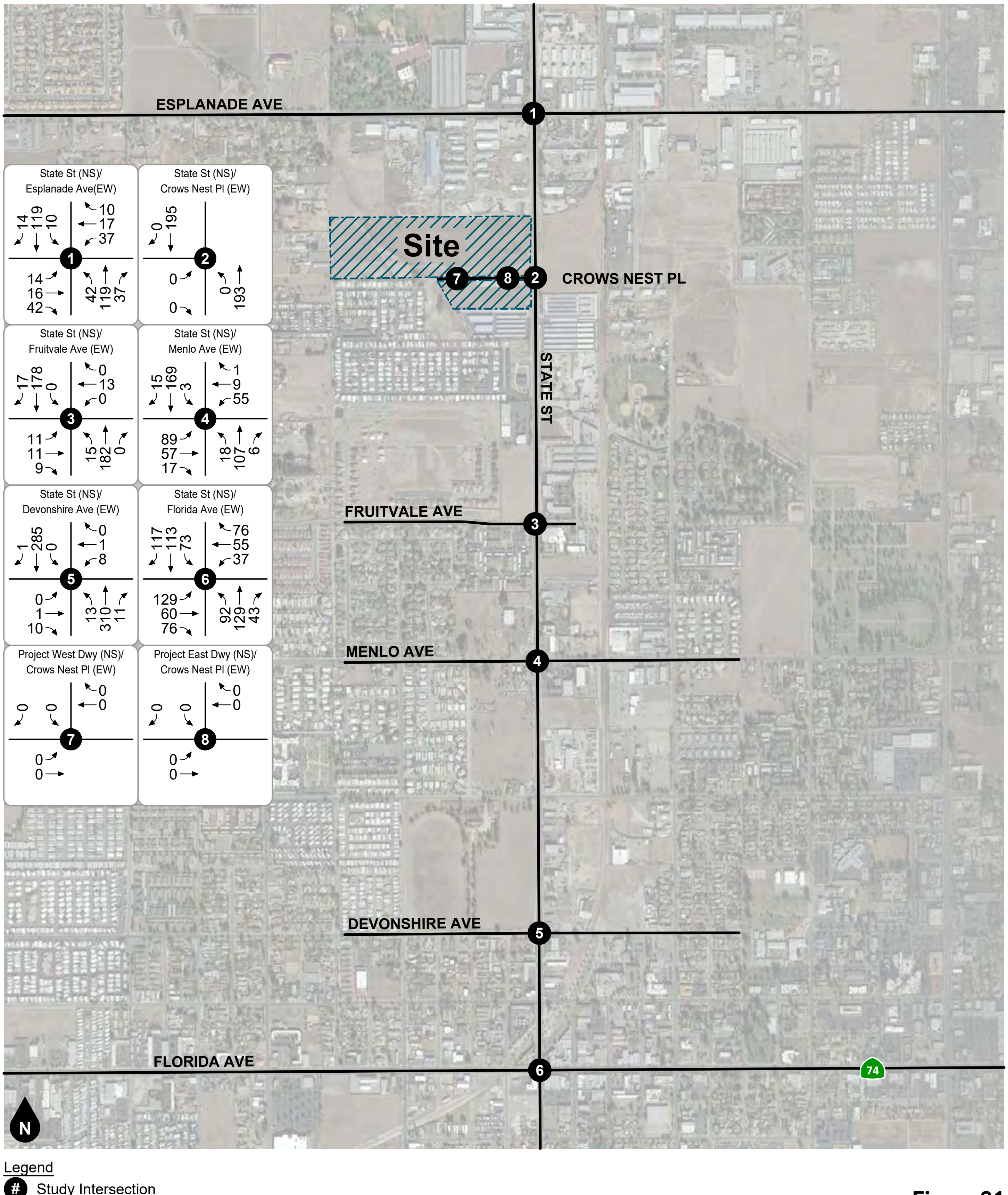
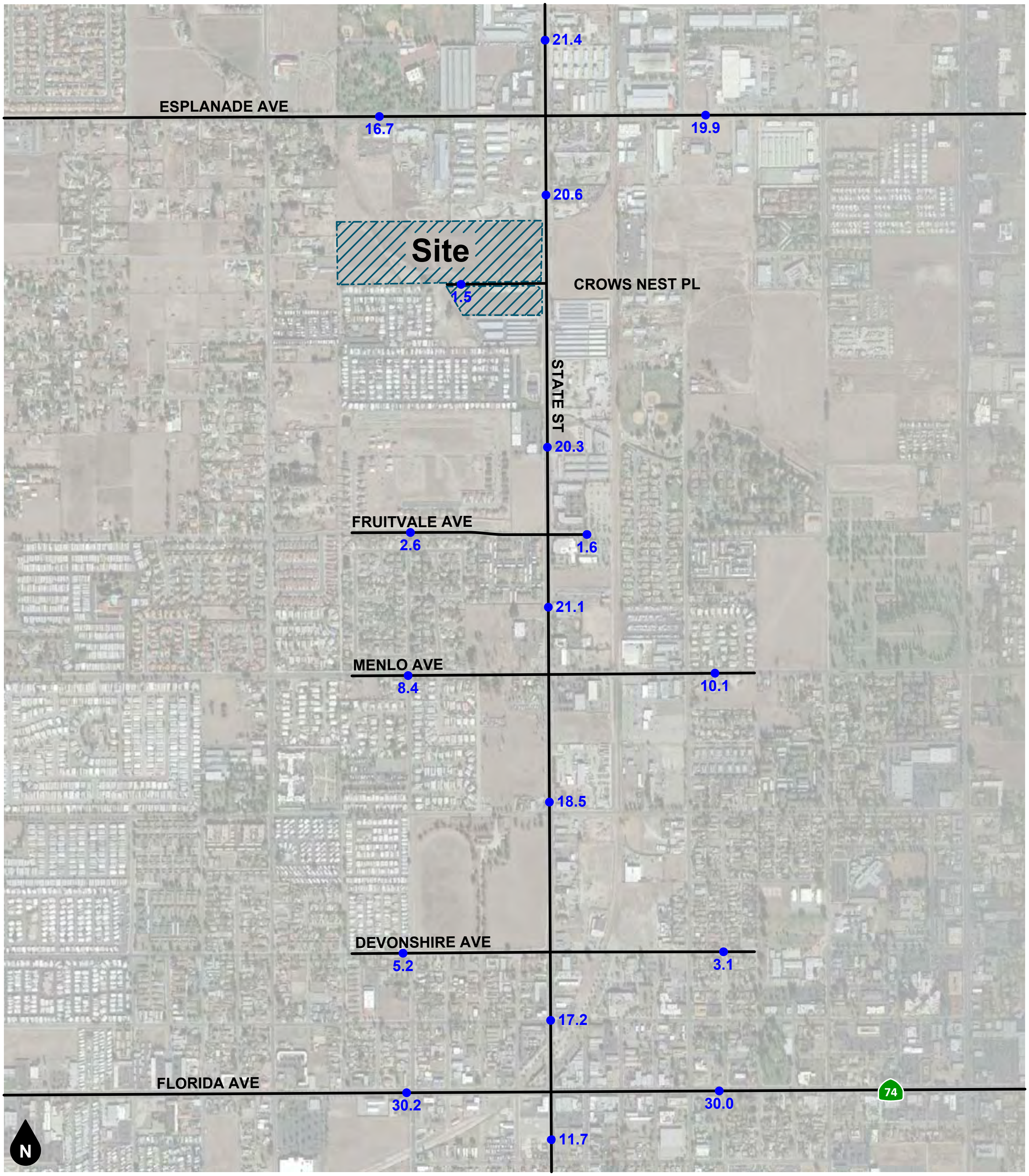
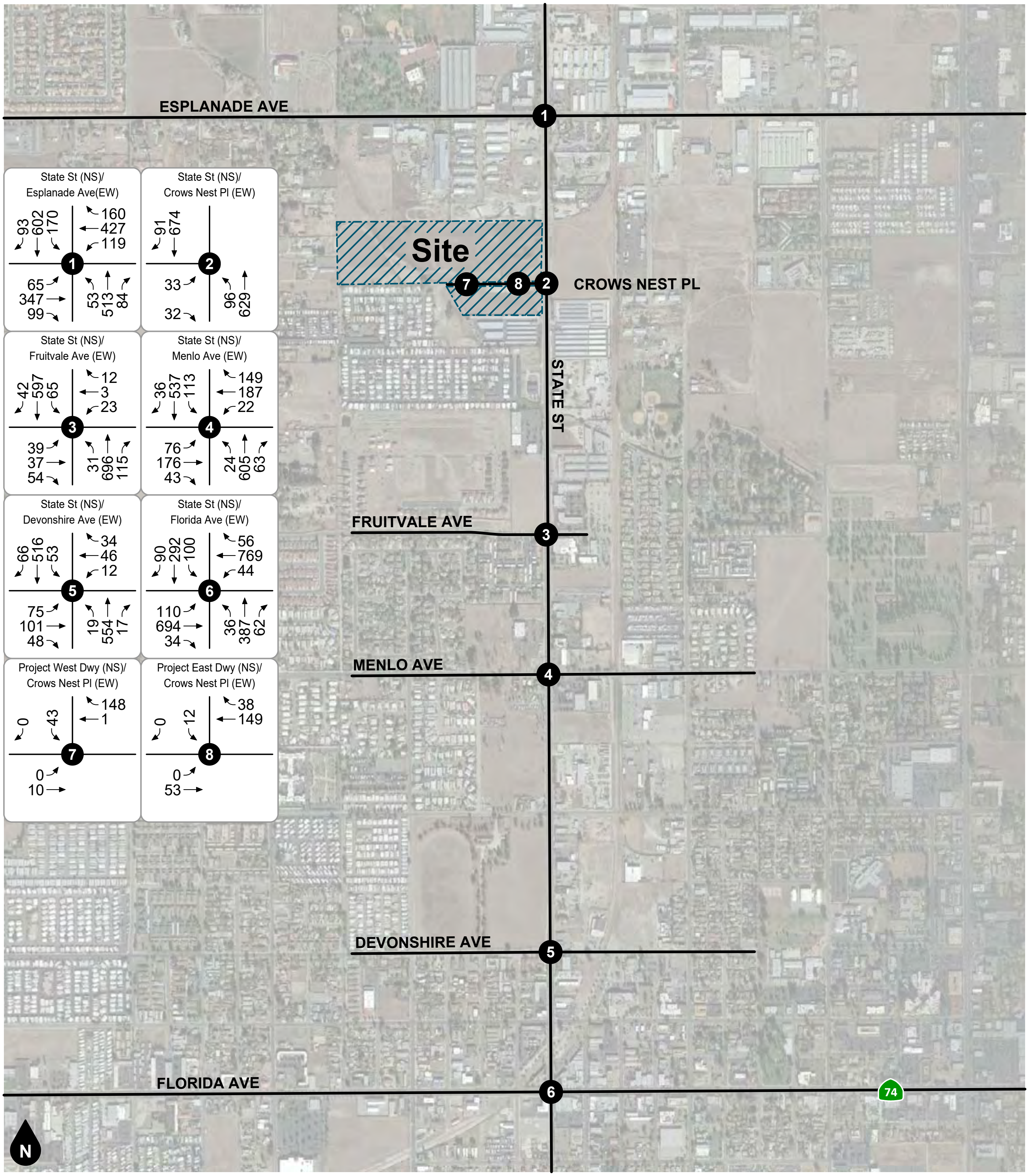


Figure 21
Other Development
PM Peak Hour Intersection Turning Movement Volumes



Legend
●## Vehicles Per Day (1,000's)

Figure 22
Existing Plus Project Average Daily Traffic Volumes

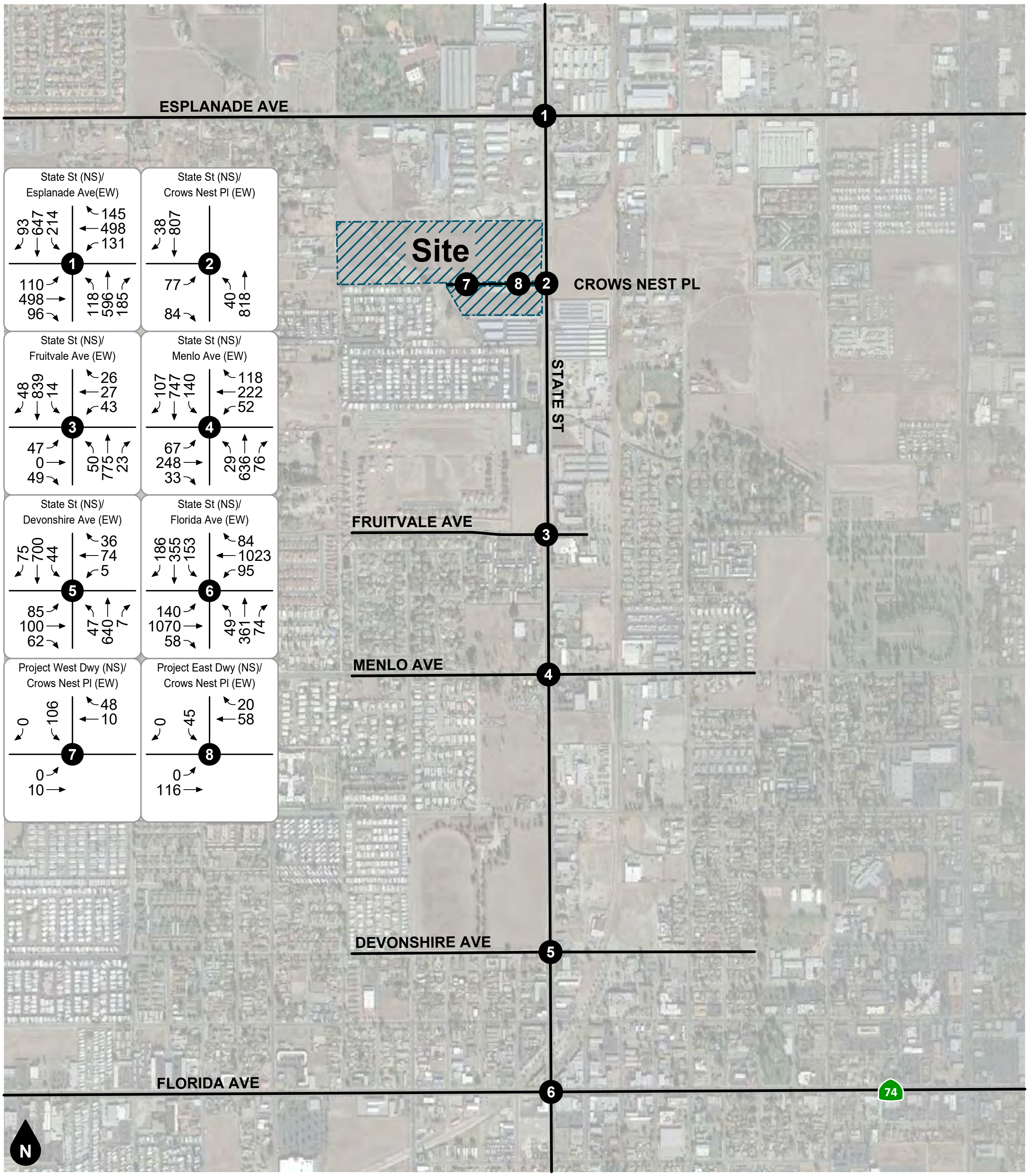


Legend

Study Intersection

Figure 23
Existing Plus Project
AM Peak Hour Intersection Turning Movement Volumes

S2A Modular Manufacturing
Traffic Impact Analysis
19-0164



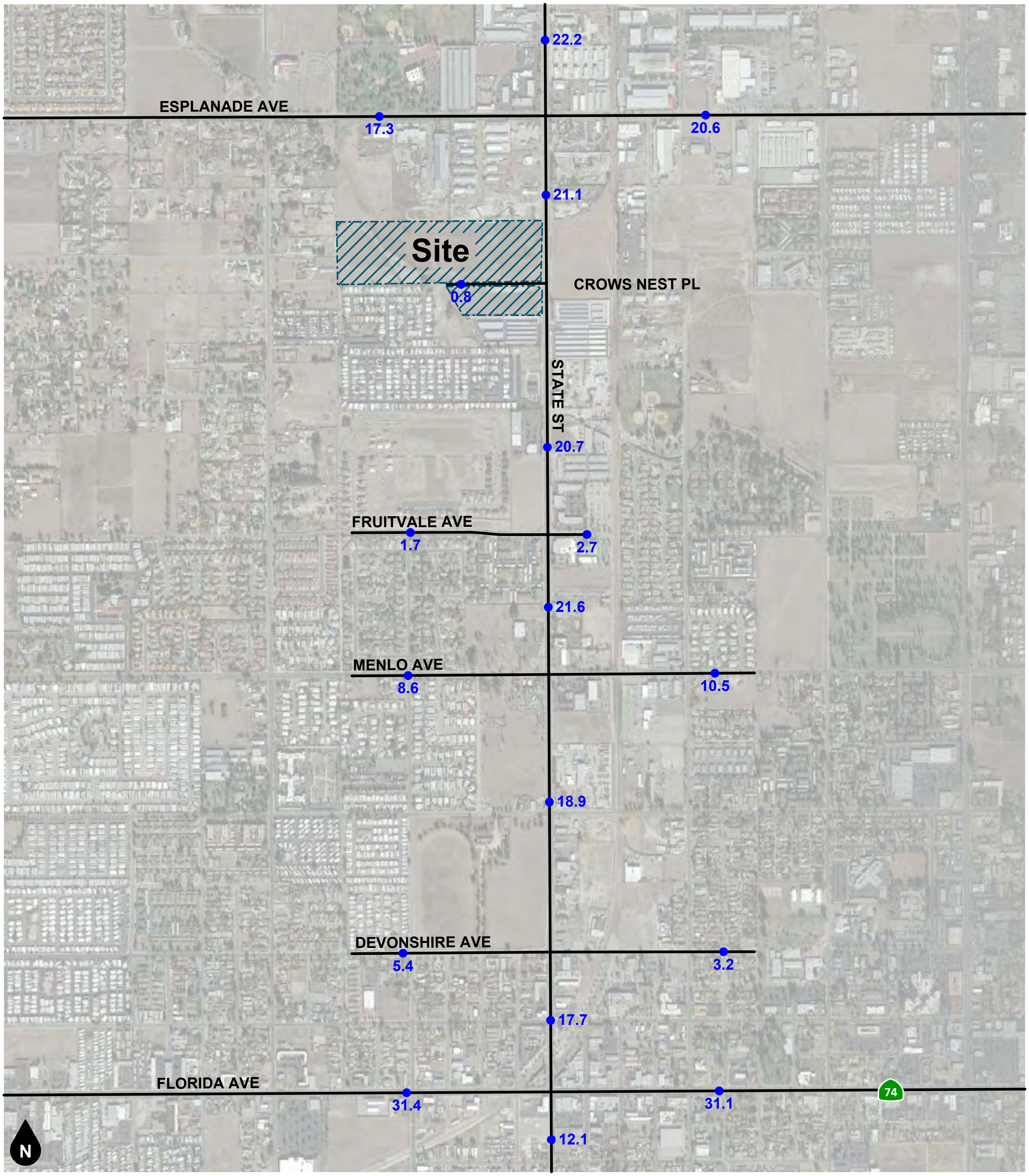
Legend

Study Intersection

Figure 24
Existing Plus Project
PM Peak Hour Intersection Turning Movement Volumes

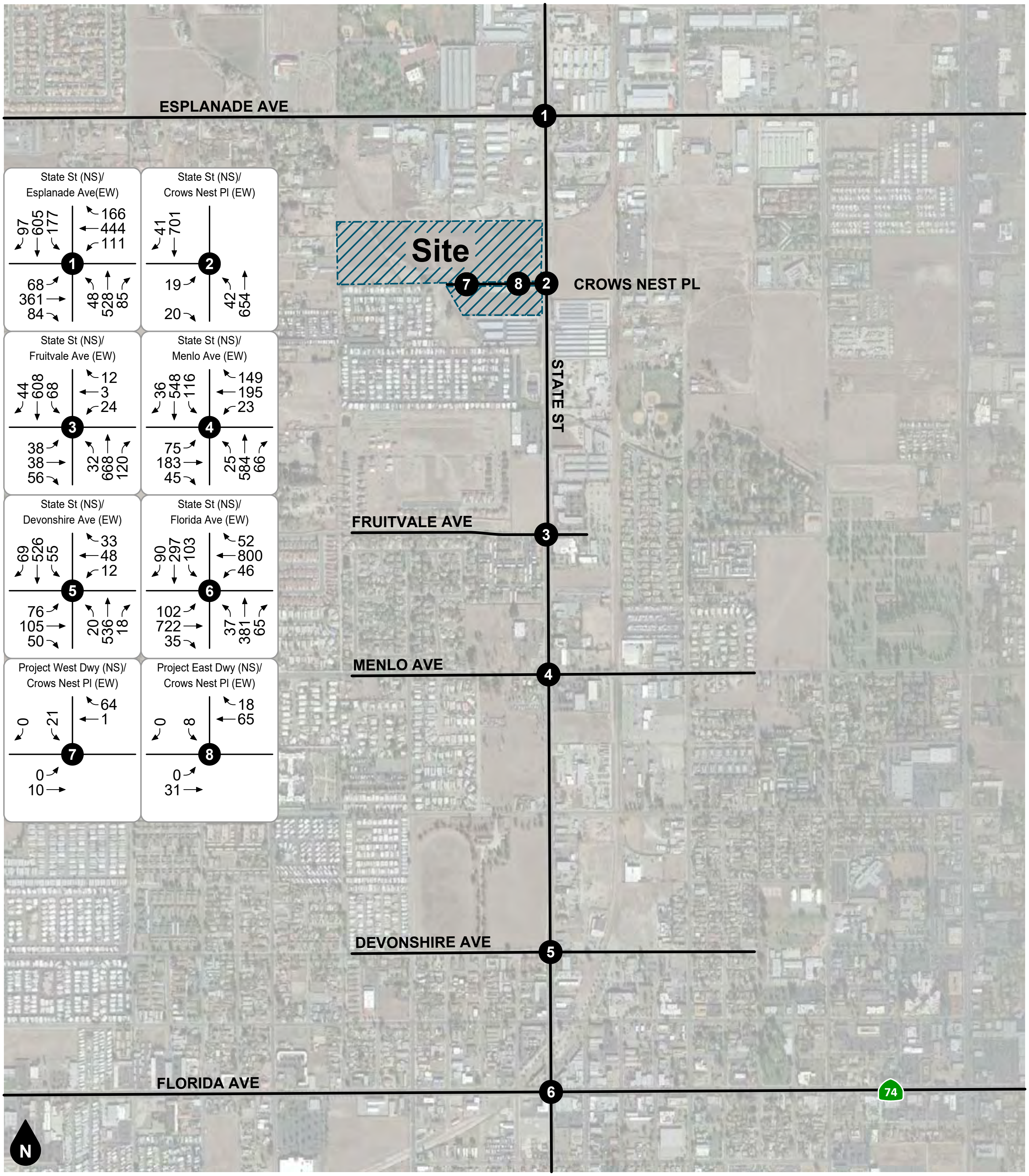
ganddini

S2A Modular Manufacturing
Traffic Impact Analysis
19-0164



Legend
● ## Vehicles Per Day (1,000's)

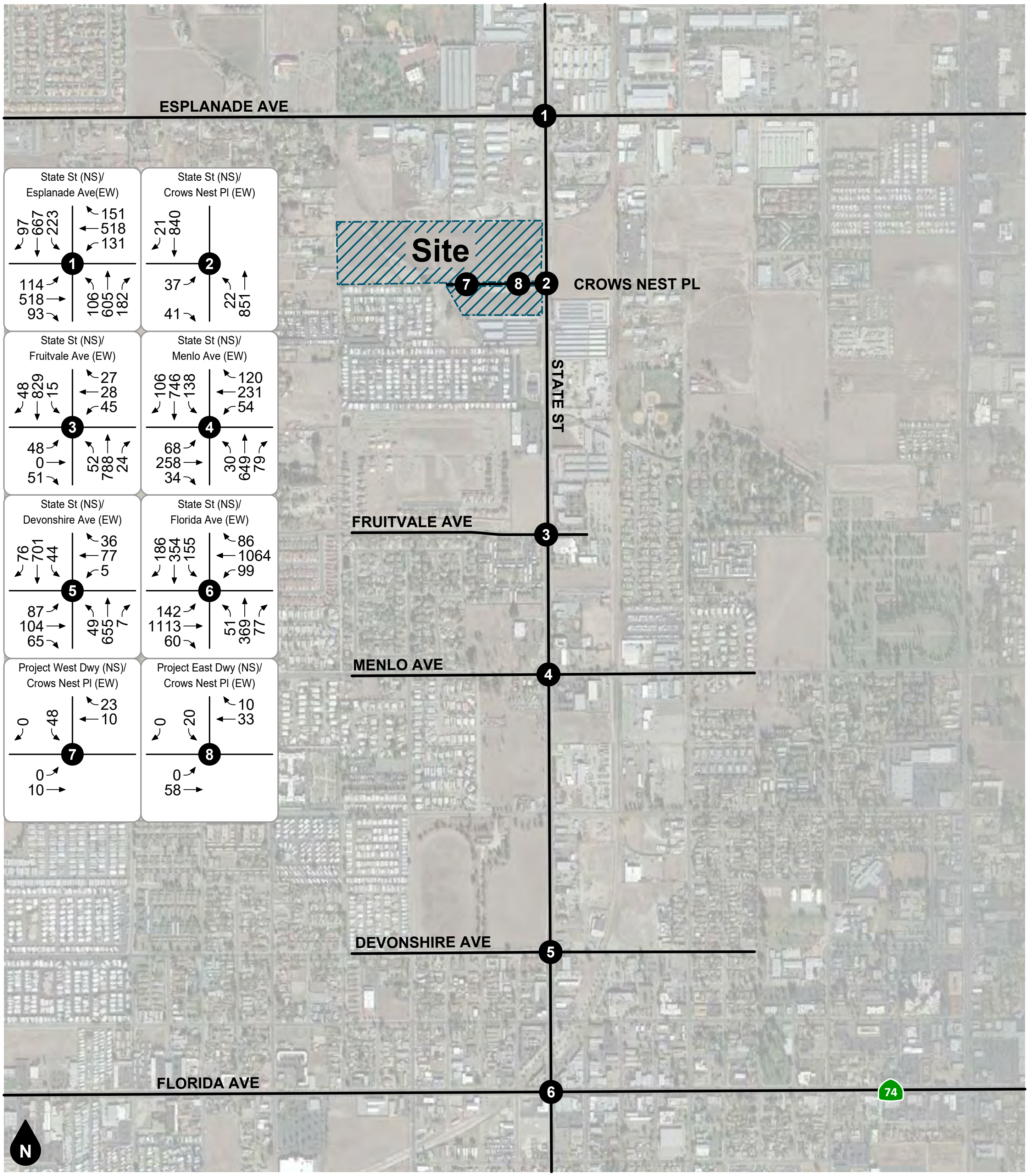
Figure 25
Opening Year (2021) Plus Project (EAGP)
Average Daily Traffic Volumes



Legend

Study Intersection

Figure 26
Opening Year (2021) Plus Project (EAGP)
AM Peak Hour Intersection Turning Movement Volumes



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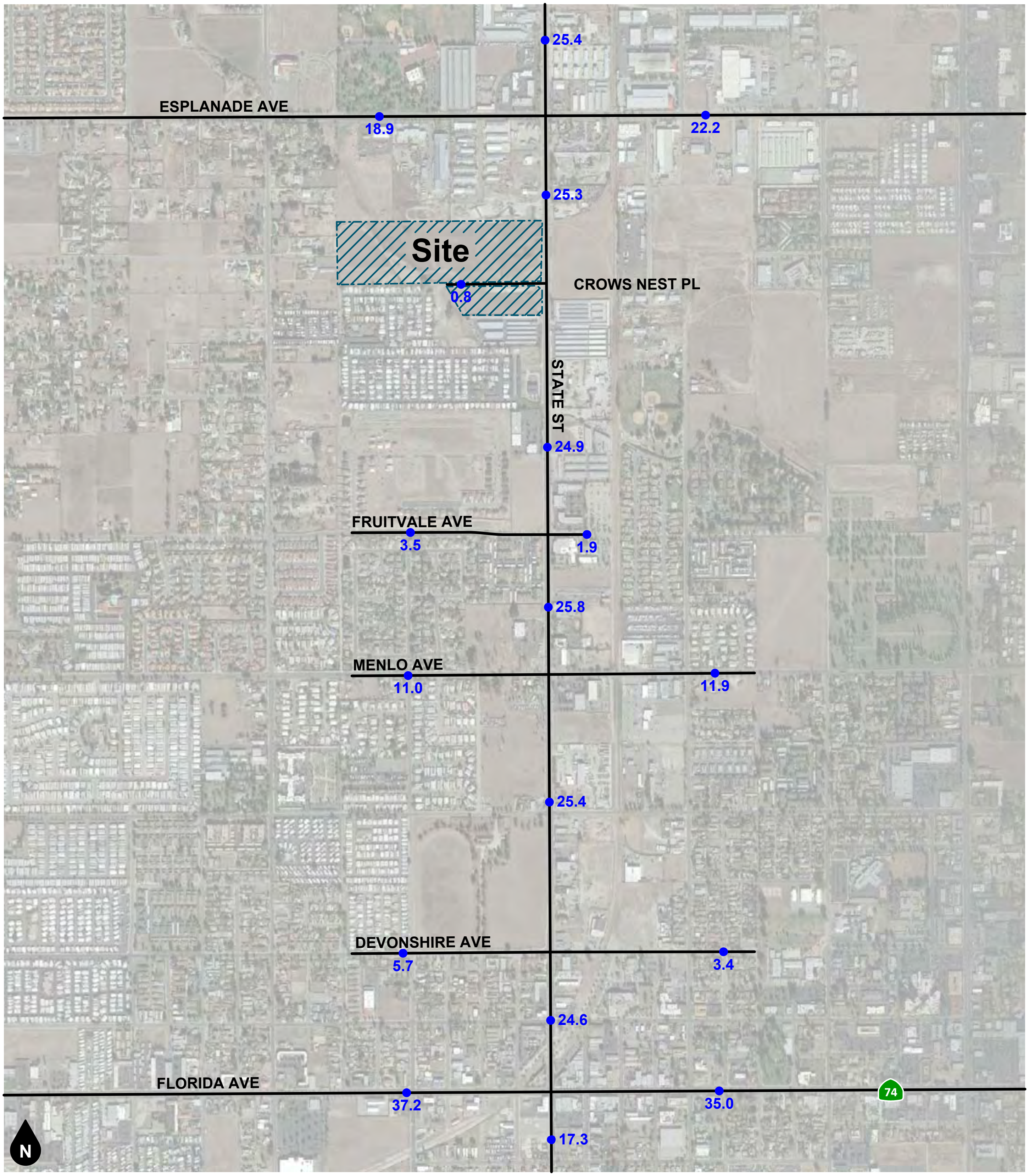
Study Intersection

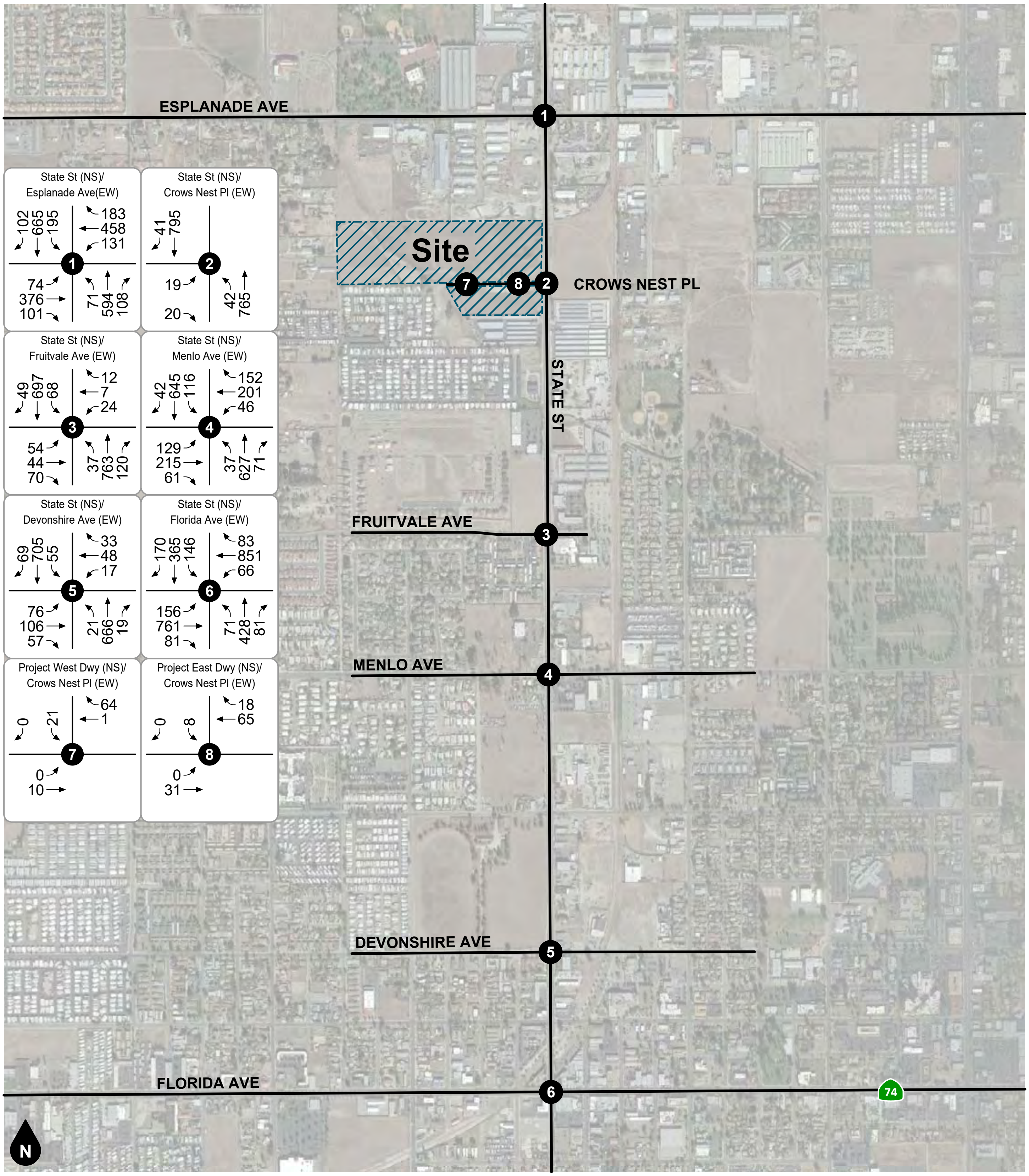
Figure 27
Opening Year (2021) Plus Project (EAGP)
PM Peak Hour Intersection Turning Movement Volumes



Legend
●## Vehicles Per Day (1,000's)

Figure 28
Opening Year (2021) Plus Project Plus Cumulative (EAGPC)
Average Daily Traffic Volumes

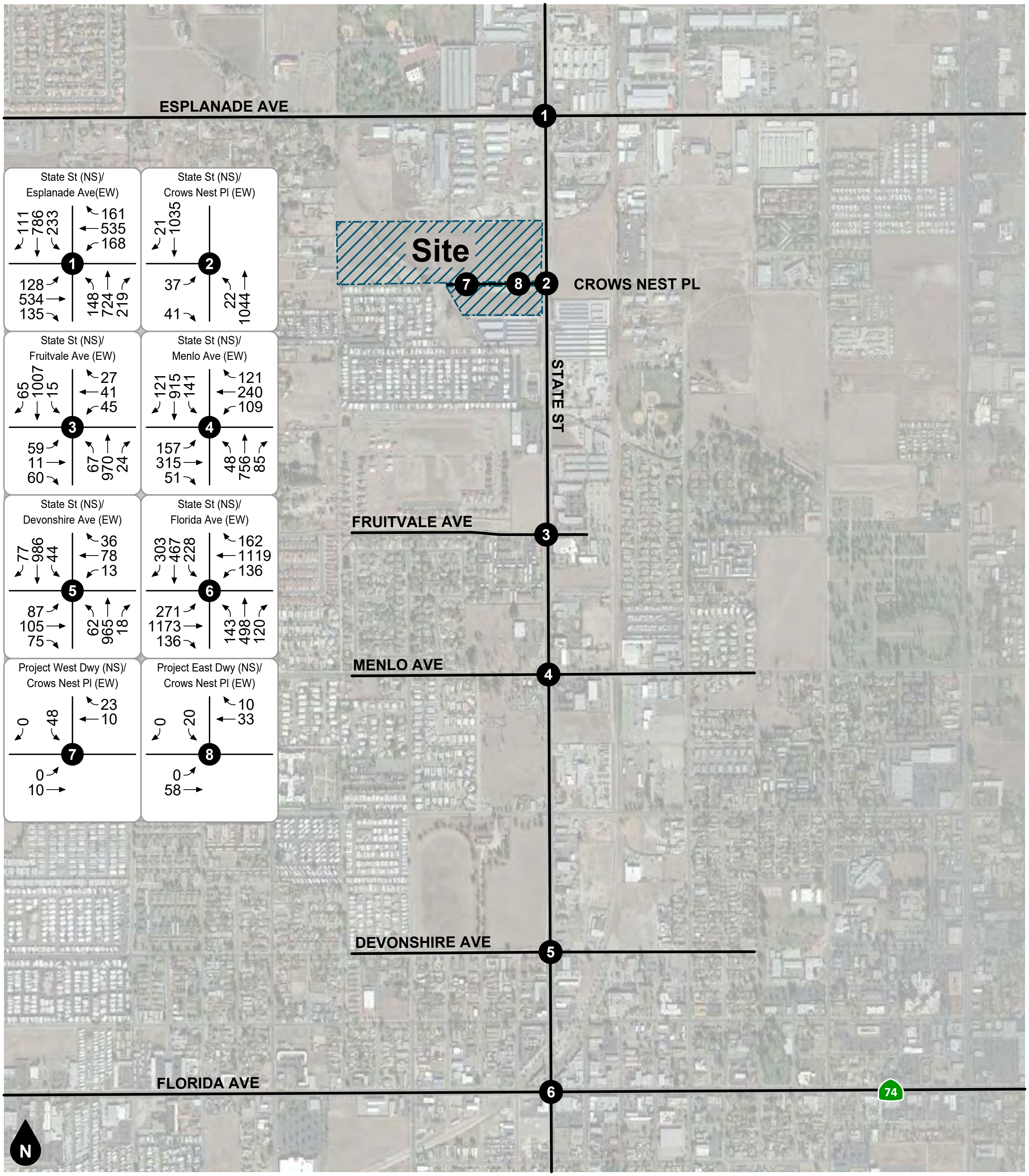
S2A Modular Manufacturing
Traffic Impact Analysis
19-0164



Legend

\# Study Intersection

Figure 29
Opening Year (2021) Plus Project Plus Cumulative (EAGPC)
AM Peak Hour Intersection Turning Movement Volumes

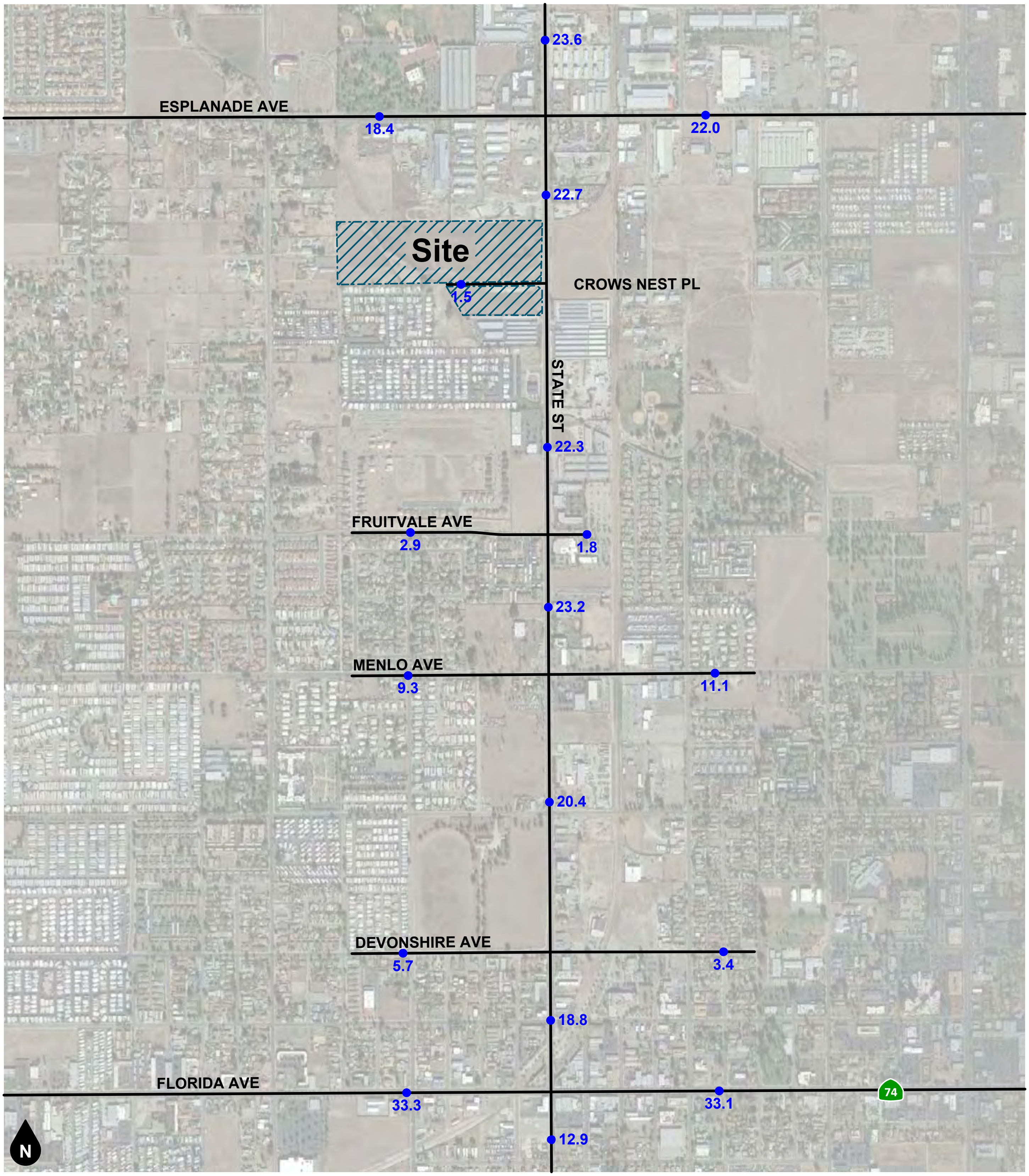


Legend
Study Intersection

Figure 30
Opening Year (2021) Plus Project Plus Cumulative (EAGPC) PM Peak Hour Intersection Turning Movement Volumes

ganddini

S2A Modular Manufacturing
Traffic Impact Analysis
19-0164

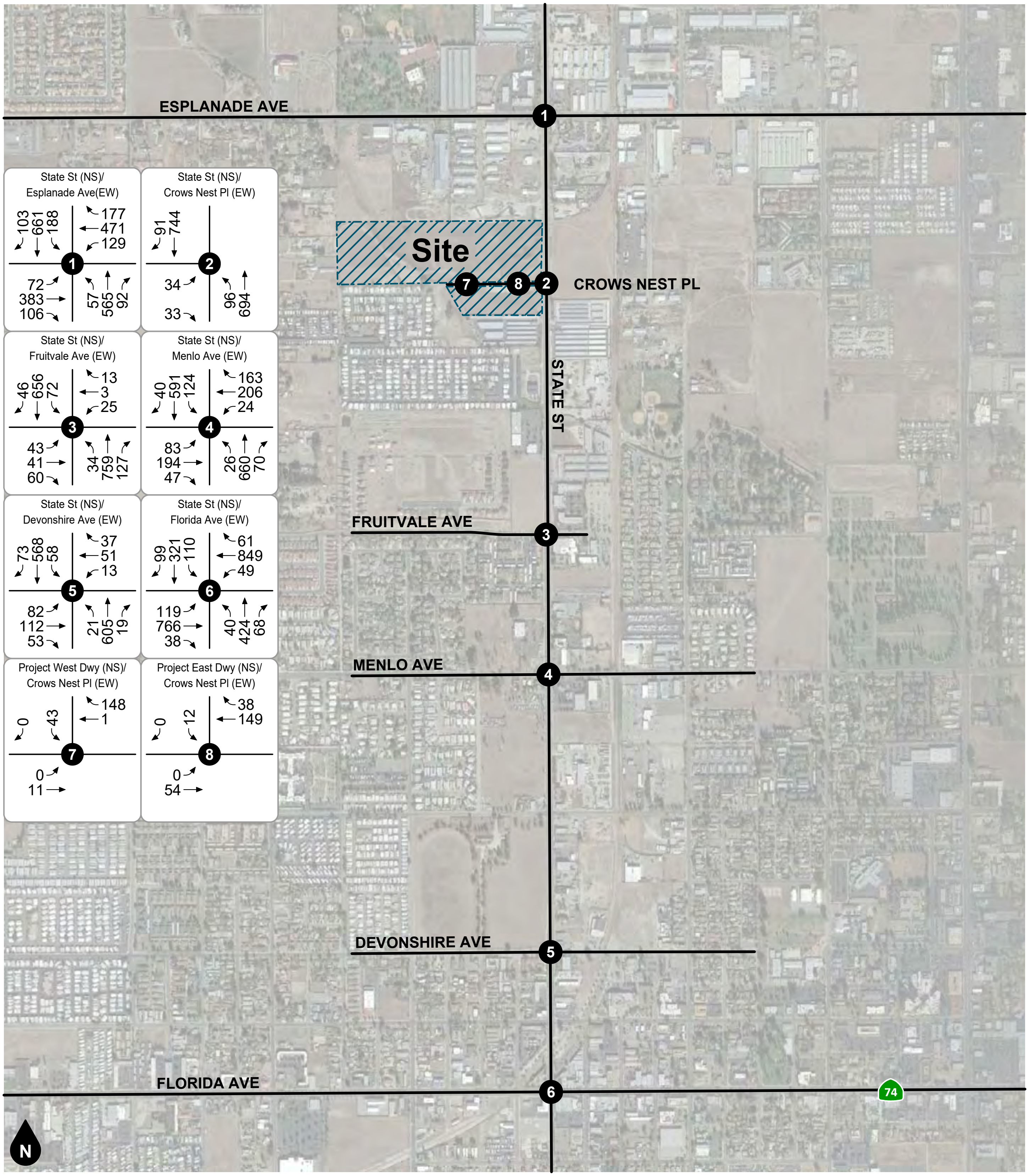


Legend
●## Vehicles Per Day (1,000's)

Figure 31
Completion Year (2024) Plus Project (EAGP)
Average Daily Traffic Volumes

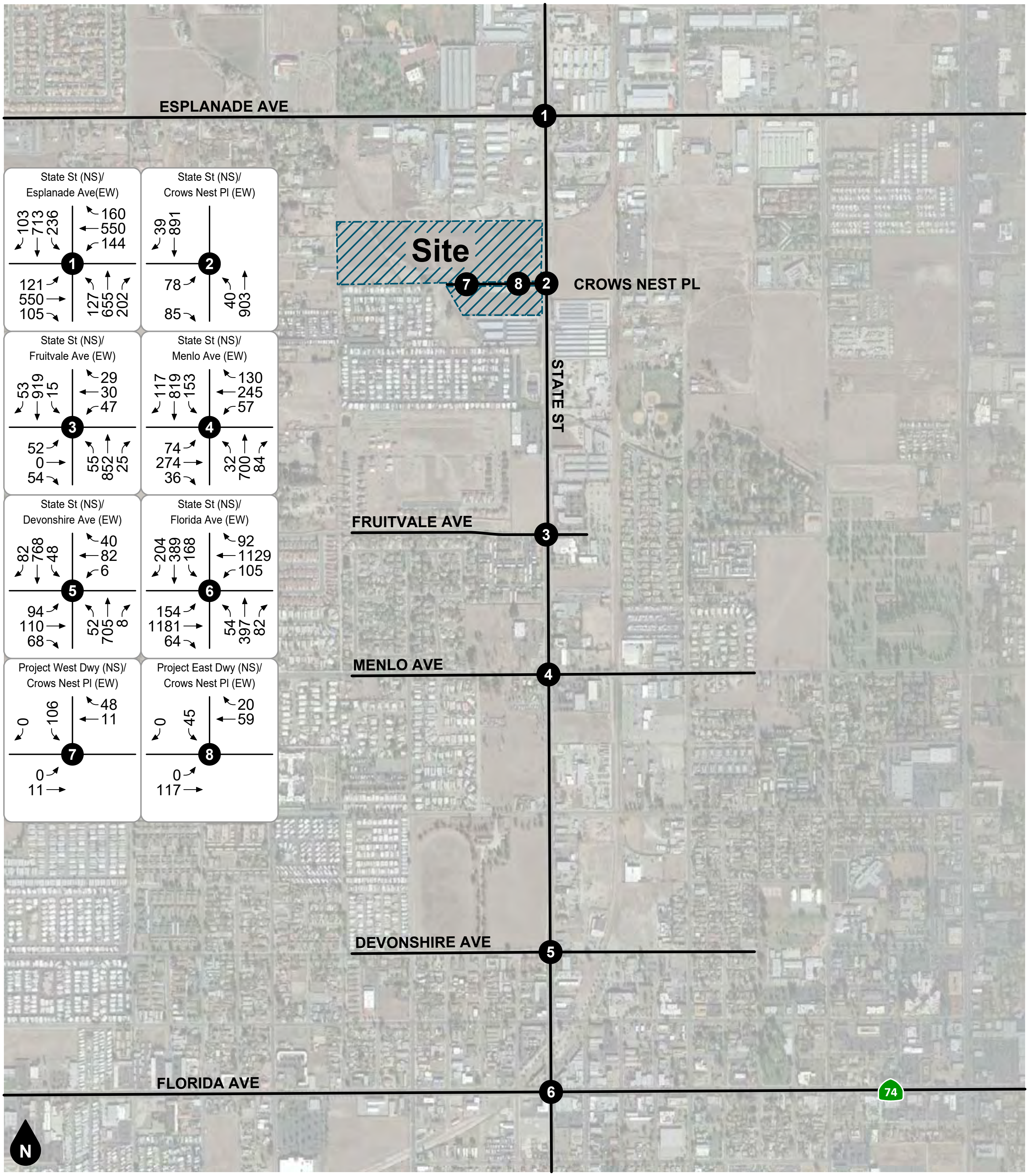
ganddini

S2A Modular Manufacturing
Traffic Impact Analysis
19-0164



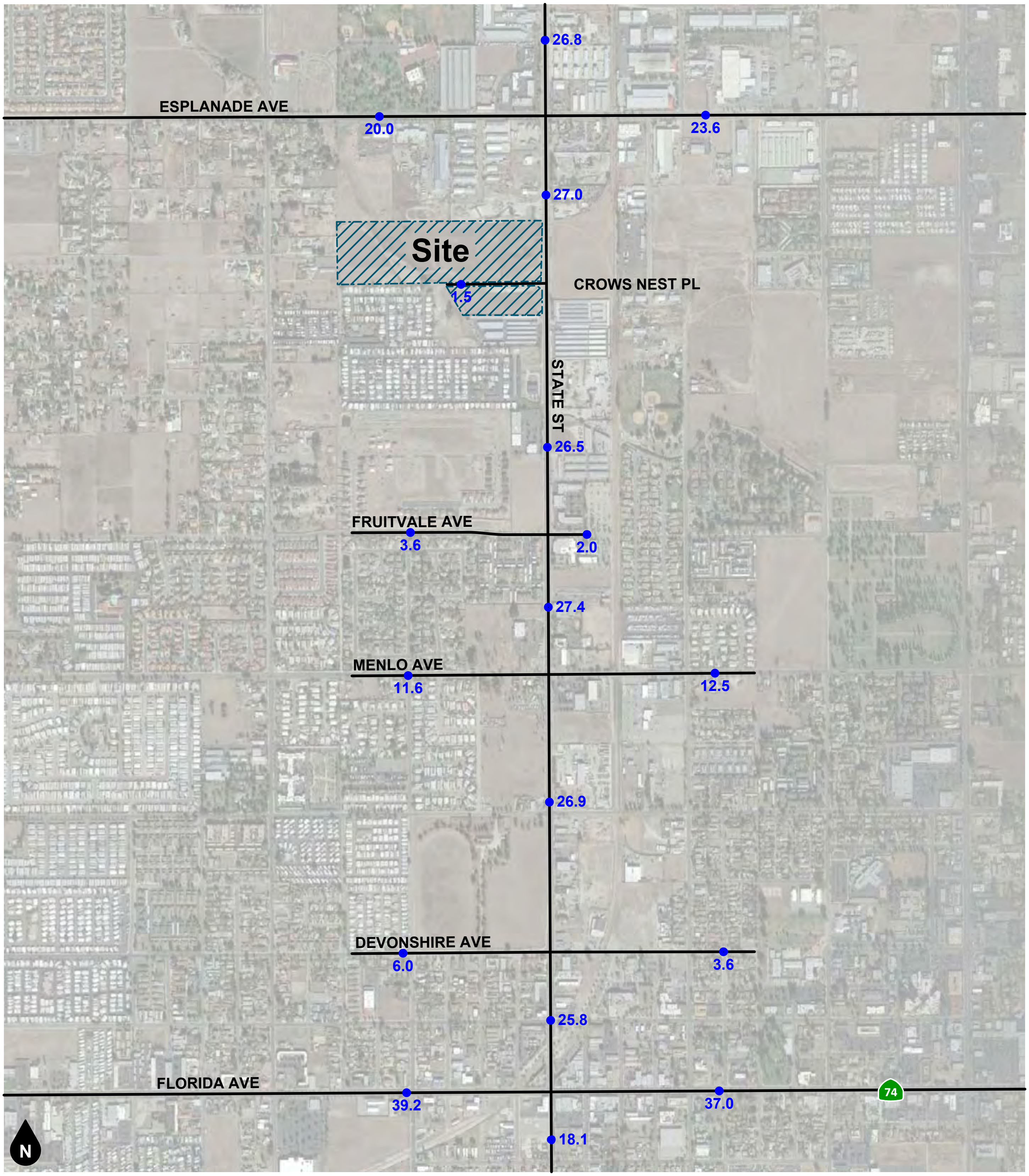
Legend
Study Intersection

Figure 32
Completion Year (2024) Plus Project (EAGP)
AM Peak Hour Intersection Turning Movement Volumes



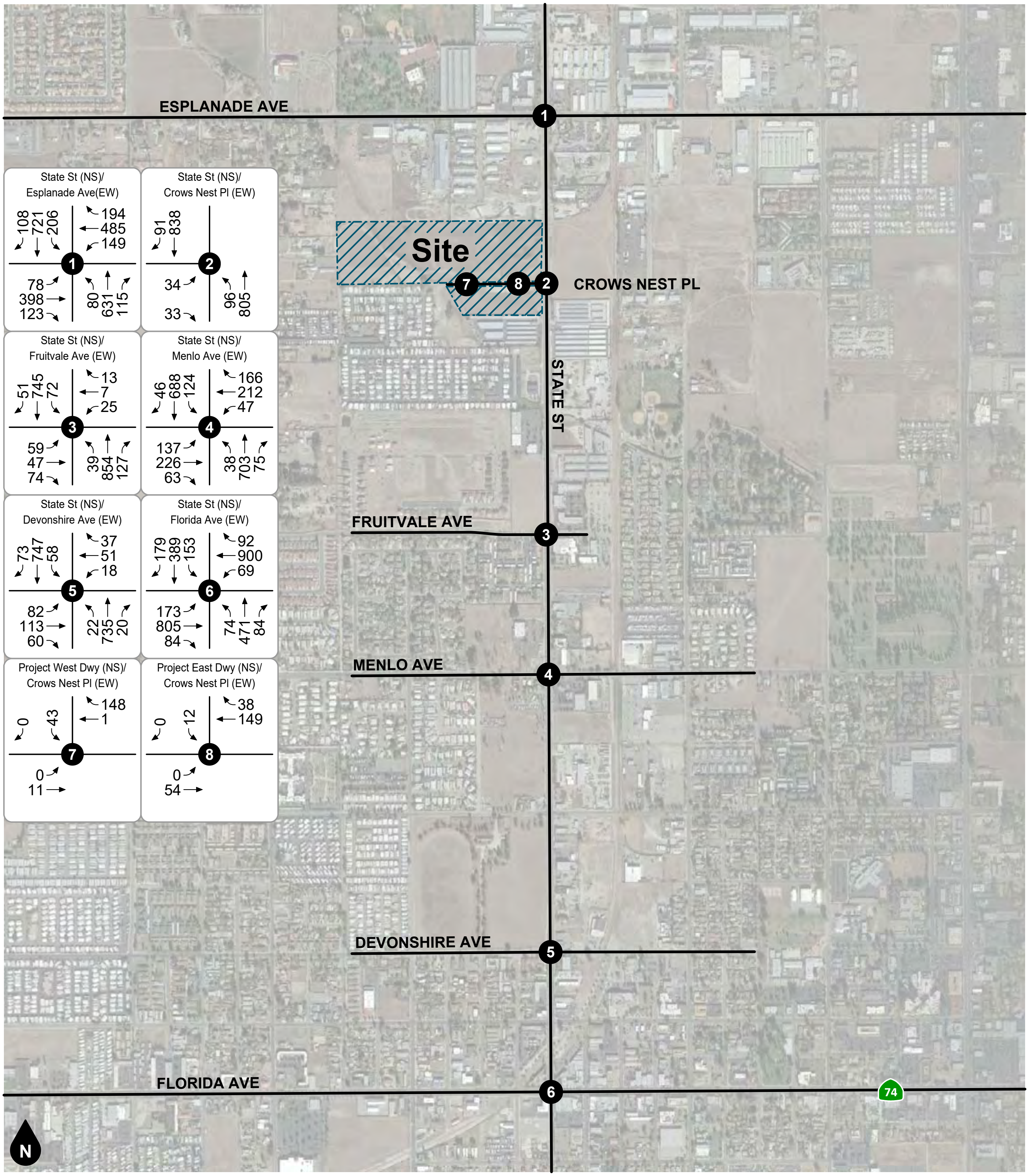
Legend
Study Intersection

Figure 33
Completion Year (2024) Plus Project (EAGP)
PM Peak Hour Intersection Turning Movement Volumes



Legend
●## Vehicles Per Day (1,000's)

Figure 34
Completion Year (2024) Plus Project Plus Cumulative (EAGPC)
Average Daily Traffic Volumes



Legend
\# Study Intersection

Figure 35
Completion Year (2024) Plus Project Plus Cumulative (EAGPC)
AM Peak Hour Intersection Turning Movement Volumes

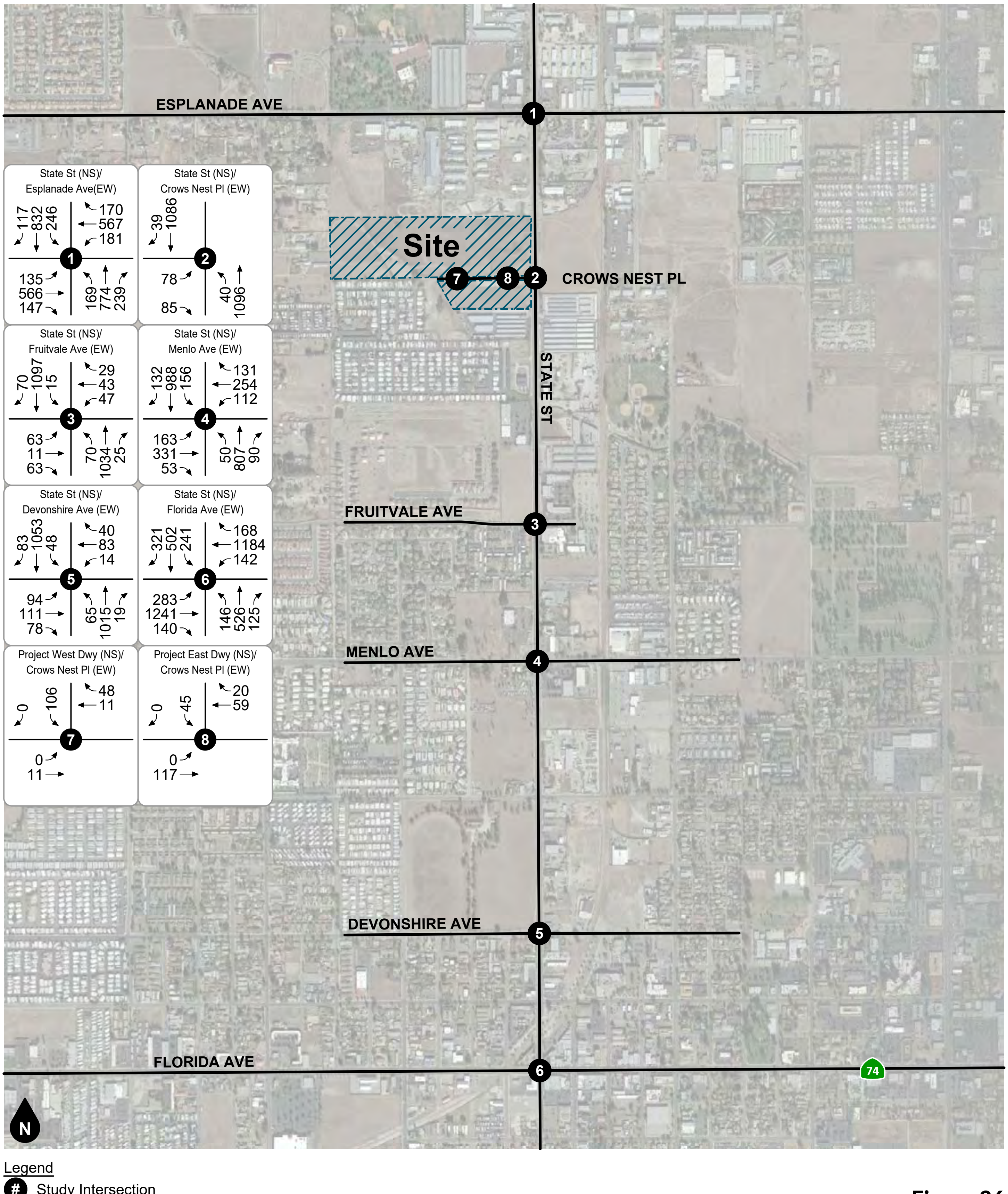


Figure 36
Completion Year (2024) Plus Project Plus Cumulative (EAGPC)
PM Peak Hour Intersection Turning Movement Volumes

6. FUTURE OPERATIONAL ANALYSIS

Detailed intersection Level of Service calculation worksheets for each of the following analysis scenarios are provided in Appendix D.

EXISTING PLUS PROJECT

The study intersection Levels of Service for Existing Plus Project conditions are shown in Table 4. The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Existing Plus Project conditions, except for the following study intersection that is projected to operate at unacceptable Level of Service without improvements (see Table 4):

- State Street (NS) at Crows Nest Place (EW) - #2

The following improvement is required with project development to maintain an acceptable Level of Service at the study intersection:

- State Street (NS) at Crows Nest Place (EW) - #2
    - Install Traffic Signal

OPENING YEAR (2021) PLUS PROJECT (EAGP)

The study intersection Levels of Service for Opening Year (2021) Plus Project (EAGP) conditions are shown in Table 5. The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2021) Plus Project (EAGP) conditions, (see Table 5).

OPENING YEAR (2021) PLUS PROJECT PLUS CUMULATIVE (EAGPC)

The study intersection Levels of Service for Opening Year (2021) Plus Project Plus Cumulative (EAGPC) conditions are also shown in Table 5. The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2021) Plus Project Plus Cumulative (EAGPC) conditions, except for the following study intersections that are projected to operate at unacceptable Levels of Service without improvements (see Table 5):

- State Street (NS) at Crows Nest Place (EW) - #2
- State Street (NS) at Menlo Avenue (EW) - #4

In addition to the improvements previously identified for Opening Year (2021) With Project conditions, the following additional improvements are required with cumulative development to maintain acceptable Levels of Service at the study intersections:

- State Street (NS) at Menlo Avenue (EW) - #4
    - Reconfigure eastbound approach striping to include one left turn lane and one shared through/right lane.
    - Reconfigure westbound approach striping to include one left turn lane, one through lane, and one right turn lane.
    - Modify traffic signal phasing to provide permissive eastbound and westbound phasing.

COMPLETION YEAR (2024) PLUS PROJECT (EAGP)

The study intersection Levels of Service for Completion Year (2024) Plus Project (EAGP) conditions are shown in Table 6. The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Completion Year (2024) Plus Project (EAGP) conditions, except for the following study intersection that is projected to operate at unacceptable Level of Service without improvements (see Table 6):

- State Street (NS) at Crows Nest Place (EW) - #2

The previously identified improvements for Opening Year (2021) Plus Project (EAGP) conditions would also maintain acceptable Levels of Service at the study intersections for Completion Year (2024) Plus Project (EAGP) conditions. No additional improvements are required for Completion Year (2024) Plus Project (EAGP) conditions.

COMPLETION YEAR (2024) PLUS PROJECT PLUS CUMULATIVE (EAGPC)

The study intersection Levels of Service for Completion Year (2024) Plus Project Plus Cumulative (EAGPC) conditions are also shown in Table 6. The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Completion Year (2024) Plus Project Plus Cumulative (EAGPC) conditions, except for the following study intersections that are projected to operate at unacceptable Levels of Service without improvements (see Table 6):

- State Street (NS) at Crows Nest Place (EW) - #2
- State Street (NS) at Menlo Avenue (EW) - #4

The previously identified improvements for Opening Year (2021) Plus Project Plus Cumulative (EAGPC) conditions would also maintain acceptable Levels of Service at the study intersections for Completion Year (2024) Plus Project Plus Cumulative (EAGPC) conditions. No additional improvements are required for Completion Year (2024) Plus Project Plus Cumulative (EAGPC) conditions.

To provide a conservative analysis for State Street and Florida Avenue (SR-74), this cumulative development analysis does not include re-routing of eastbound-westbound Florida Avenue traffic volumes with the proposed future realignment of SR-79 to the west of State Street, which is likely to alleviate congestion at this intersection.

TRAFFIC SIGNAL WARRANT ANALYSIS

The potential need for installation of a traffic signal at unsignalized study intersections was evaluated based on the California Manual on Uniform Traffic Control Devices ("California MUTCD", November 2014), Section 4C-101, peak hour volume warrant (Warrant 3). The unsignalized study intersections are not forecast to satisfy the California MUTCD peak hour volume warrant (Warrant 3), except for the following intersection under Existing Plus Project conditions:

- State Street (NS) at Crows Nest Place (EW) - #2

Traffic signal warrant worksheets are provided in Appendix E.

CONSTRUCTION TRAFFIC CONTROL MEASURES

A construction work site traffic control plan shall be submitted to the City for review and approval prior to the start of any construction work. The plans shall show the location of any roadway, sidewalk, bike route, bus stop or driveway closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. Temporary traffic controls used around the construction area should adhere to the standards set forth in the California Manual of Uniform Traffic Control Devices (2014) and construction activities should adhere to applicable local ordinances.

Site development would require the use of haul trucks during site clearing and excavation and the use of a variety of other construction vehicles throughout the construction work at the site. Transportation of heavy construction equipment and or materials, which requires the use of oversized vehicles, will require the appropriate transportation permit.

Table 4
Existing Plus Project Intersection Levels of Service

ID Study Intersection	Traffic Control[1]	Existing				Existing Plus Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. State Street at Esplanade Avenue	TS	21.4	C	27.1	C	24.3	C	28.0	C
2. State Street at Crows Nest	CSS	17.5	C	21.2	C	36.5	E	82.9	F
With Improvements	TS	-		-		8.2	A	15.0	B
3. State Street at Fruitvale Avenue	TS	12.1	B	11.0	B	12.2	B	11.2	B
4. State Street at Menlo Avenue	TS	31.8	C	41.1	D	36.9	D	42.5	D
5. State Street at Devonshire Avenue	TS	16.1	B	16.5	B	16.5	B	16.5	B
6. State Street at Florida Avenue	TS	22.4	C	29.2	C	26.0	C	31.4	C
7. Project West Access at Crows Nest	CSS	-		-		10.0	A	9.8	A
8. Project East Access at Crows Nest	CSS	-		-		9.9	A	9.8	A

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop

(2) Delay is shown in seconds per vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).

(3) LOS = Level of Service

Table 5
Opening Year (2021) Intersection Levels of Service

ID Study Intersection	Traffic Control[1]	Existing Plus Ambient Growth (2021) With Project (EAGP)				Existing Plus Ambient Growth (2021) With Cumulative With Project (EAGCP)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. State Street at Esplanade Avenue	TS	24.4	C	28.4	C	25.2	C	33.7	C
2. State Street at Crows Nest	CSS	23.8	C	34.2	D	30.1	D	70.1	F
With Improvements	TS					5.4	A	19.8	B
3. State Street at Fruitvale Avenue	TS	12.4	B	11.5	B	13.9	B	13.8	B
4. State Street at Menlo Avenue	TS	37.7	D	42.9	D	49.2	D	81.5	F
With Improvements	TS	-		-		20.6	C	27.2	C
5. State Street at Devonshire Avenue	TS	16.7	B	16.7	B	17.0	B	17.4	B
6. State Street at Florida Avenue	TS	26.1	C	32.2	C	28.9	C	49.8	D
7. Project West Access at Crows Nest	CSS	9.4	A	9.4	A	9.4	A	9.4	A
8. Project East Access at Crows Nest	CSS	9.1	A	9.1	A	9.1	A	9.1	A

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop.

(2) Delay is shown in seconds per vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).

(3) LOS = Level of Service

Table 6
Completion Year (2024) Intersection Levels of Service

ID	Study Intersection	Traffic Control[1]	Existing Plus Ambient Growth (2024) With Project (EAGP)				Existing Plus Ambient Growth (2024) With Cumulative With Project (EAGCP)			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay	LOS	Delay	LOS
1.	State Street at Esplanade Avenue	TS	25.0	C	30.7	C	26.1	C	39.0	D
2.	State Street at Crows Nest	TS	8.3	A	18.6	B	8.4	A	21.5	C
3.	State Street at Fruitvale Avenue	TS	13.1	B	12.3	B	14.8	B	15.0	B
4.	State Street at Menlo Avenue	TS	40.3	D	51.3	D	54.3	D	106.5	F
	With Improvements	TS					21.7	C	30.0	C
5.	State Street at Devonshire Avenue	TS	17.1	B	17.1	B	17.5	B	17.9	B
6.	State Street at Florida Avenue	TS	27.1	C	33.9	C	31.0	C	53.6	D
7.	Project West Access at Crows Nest	CSS	10.0	A	9.8	A	10.0	A	9.8	A
8.	Project East Access at Crows Nest	CSS	9.9	A	9.9	A	9.9	A	9.9	A

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop.

(2) Delay is shown in seconds per vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).

(3) LOS = Level of Service

7. SITE ACCESS

Two full access driveways are proposed on Crows Nest Place. Trucks to and from the site will primarily use the west access driveway.

PROJECT DESIGN FEATURES

This analysis assumes the following improvements will be constructed by the project to provide project site access:

Project West Driveway at Crows Nest Place - #7

- Install outbound cross street stop-control.
- Construct the southbound approach to consist of one shared left-turn/right-turn lane.

Project East Driveway at Crows Nest Place - #8

- Install outbound cross street stop-control.
- Construct the southbound approach to consist of one shared left-turn/right-turn lane.

This analysis also assumes this project shall comply with the following conditions as part of the City of Hemet standard development review process:

- A construction work (temporary) traffic control plans are required by State law in accordance with the standards set forth in the California Manual of Uniform Traffic Control Devices (2014), and shall be submitted to the City of Hemet prior to the issuance of a grading permit or the start of construction. The plan shall identify any roadway, sidewalk, bike route, or bus stop closure and/or detour as well as haul routes and hours of operation. Whenever possible, construction related truck trips should be restricted to off-peak hours, to the extent that conditions permit.

- All roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project should be constructed in accordance with applicable State/ Federal engineering standards and to the satisfaction of the City of Hemet Public Works Department.

- Site-adjacent roadways should be constructed and/or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the City of Hemet Public Works Department.

- Adequate off-street parking should be provided to the satisfaction of City of Hemet Planning Department based on supporting parking and density analysis prepared for the project.

- The final grading, landscaping, and street improvement plans should demonstrate that sight distance standards are met in accordance with applicable City of Hemet/California Department of Transportation sight distance standards.

SITE ACCESS QUEUEING

Table 7 summarizes the results of a queue analysis for left turn, right turn, or shared through/turn lanes at project driveways based on the forecast 95th-percentile queue lengths[2] shown in the delay calculation worksheets (see Appendix D). Additionally, the recommended storage length is provided for turn lanes that are forecast to exceed the existing storage.

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[2] For a more conservative analysis, the forecast 95th-percentile queue lengths shown in the delay calculation worksheets have been rounded up to nearest 5-foot increment.

Based on the queueing analysis, adequate storage length is forecast to be provided for the shared-turn lanes at the project driveways.

Table 7
Project Driveway Queueing Analysis

ID	Intersection	Approach	Lane	Storage Length (Feet)[1]	Peak Hour 95th-Percentile Queue Length (Feet)[2]				Adequate Storage Provided
					Opening Year (2021) With Project (EAGPC)		Opening Year (2024) With Project (EAGPC)		
					AM Peak Hou	PM Peak Hou	AM	PM	
2.	State Street at Crows Nest	Northbound	Left	150	30	<25	70	30	YES
		Southbound	Thru-Right	710	210	240	275	330	YES
		Eastbound	Left-Right	120	30	50	50	115	YES
7.	Project West Access at Crows Nest	Southbound	Left-Right	50	<25	<25	<25	<25	YES
		Eastbound	Left-Thru	100	<25	<25	<25	<25	YES
		Westbound	Thru-Right	400	<25	<25	<25	<25	YES
8.	Project East Access at Crows Nest	Southbound	Left-Right	100	<25	<25	<25	<25	YES
		Eastbound	Left-Thru	400	<25	<25	<25	<25	YES
		Westbound	Thru-Right	120	<25	<25	<25	<25	YES

Notes:

(1) Distance to the adjacent driveway (existing or proposed future development).

(2) For a more conservative analysis, the forecast 95th-percentile queue lengths shown in the delay calculation worksheets have been rounded up to nearest 5-foot increment.

8. STATE HIGHWAY ANALYSIS

This section summarizes the project impact to State highway facilities. Table 8 shows the project trip contribution to roadways in the project vicinity during the PM peak hour.

STATE HIGHWAY ANALYSIS METHODOLOGIES

Intersection Delay Methodology

As previously noted in the Methodology section, the technique used to assess the performance of intersections within the California Department of Transportation jurisdiction is known as the intersection delay methodology based on procedures contained in the Highway Capacity Manual (Transportation Research Board, 6th Edition).

Thresholds of Significance

As previously noted, a project traffic impact is considered significant if the addition of project generated trips is forecast to cause the performance of a State Highway study intersection to change from acceptable operation (Level of Service D or better) to deficient operation (Level of Service E or F).

STATE ROUTE INTERSECTION OPERATIONS

Intersection Levels of Service

Table 8 shows the intersection Levels of Service at the State highway study intersections using the delay methodology. As shown in Table 8, the State highway study intersections are forecast to operate at Level of Service D or better during the peak hour conditions. Detailed intersection delay/Level of Service calculation worksheets for the State highway study intersections are provided in Appendix F.

To provide a conservative analysis for State Street and Florida Avenue (SR-74), this cumulative development analysis does not include re-routing of eastbound-westbound Florida Avenue traffic volumes with the proposed future realignment of SR-79 to the west of State Street, which is likely to alleviate congestion at this intersection.

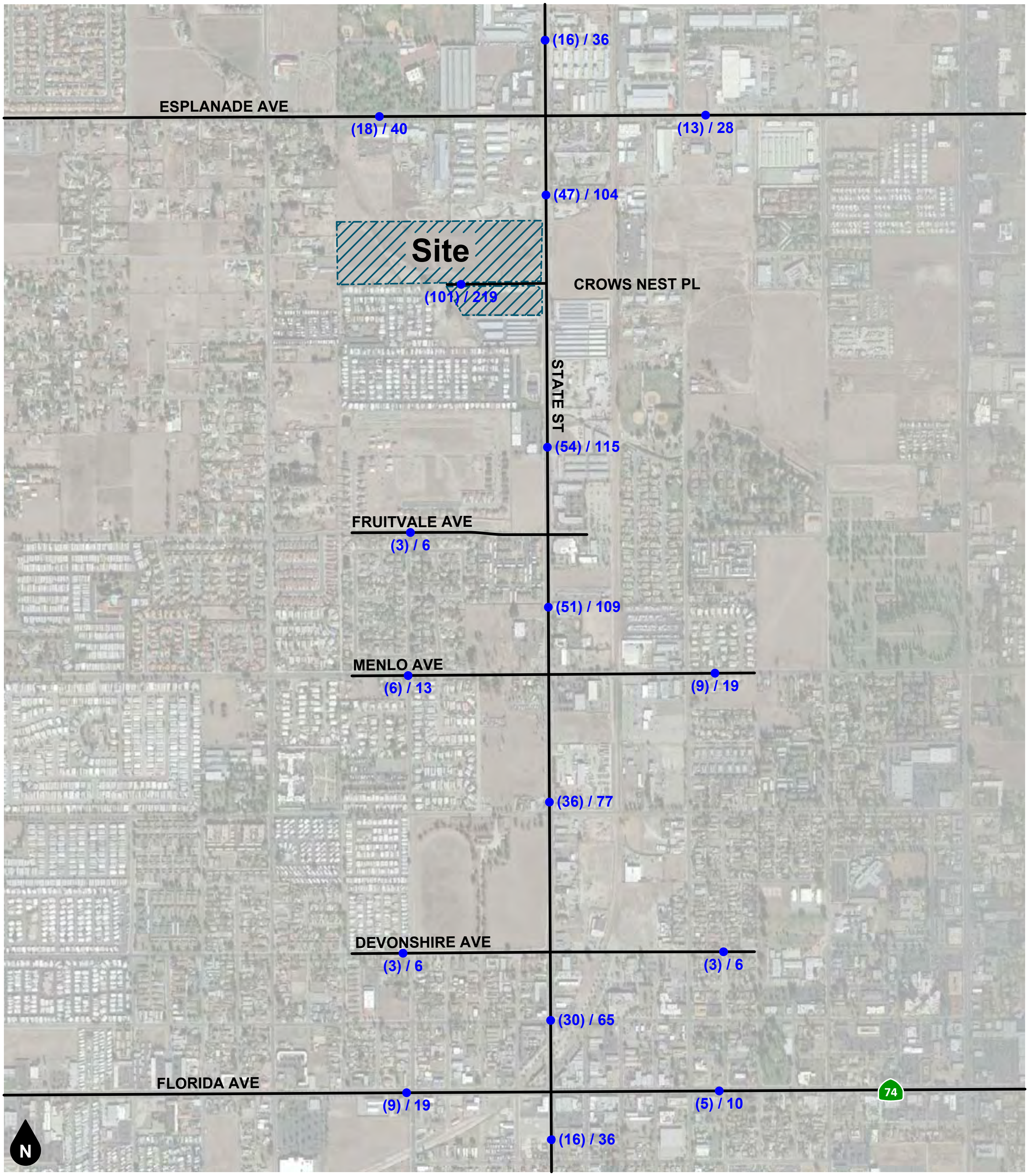
Table 8
State Highway Intersection Levels of Service Summary

ID	Study Intersection	Control[1]	Existing				Existing Plus Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS[3]	Delay	LOS	Delay	LOS	Delay	LOS
6.	State Street at Florida Avenue	TS	22.4	C	29.2	C	26.0	C	31.4	C

PHASE 1			Opening Year (2021) Without Project (EAGC)				Opening Year (2021) With Project (EAGPC)			
ID	Study Intersection	Control[1]	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS[3]	Delay	LOS	Delay	LOS	Delay	LOS
6.	State Street at Florida Avenue	TS	28.6	C	45.8	D	28.9	C	49.8	D

PHASE 2			Opening Year (2024) Without Project (EAGC)				Opening Year (2024) With Project (EAGPC)			
ID	Study Intersection	Control[1]	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS[3]	Delay	LOS	Delay	LOS	Delay	LOS
6.	State Street at Florida Avenue	TS	29.9	C	51.1	D	31.0	C	53.6	D

Notes:
(1) TS = Traffic Signal.
(2) Delay is shown in seconds per vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).
(3) LOS = Level of Service



Legend
●## Vehicles Per Peak Hour (PM)
(Phase 1) / Phase 2 Buildout

Figure 37
Project Trip Contribution

9. CONCLUSIONS

This section provides a summary of the transportation improvements identified in this analysis.

PROJECT DESIGN FEATURES

Two full access driveways are proposed on Crows Nest Place. Trucks to and from the site will primarily use the west access driveway. This analysis assumes the following improvements will be constructed by the project to provide project site access:

Project West Driveway at Crows Nest Place - #7

- Install outbound cross street stop-control.
- Construct the southbound approach to consist of one shared left-turn/right-turn lane.

Project East Driveway at Crows Nest Place - #8

- Install outbound cross street stop-control.
- Construct the southbound approach to consist of one shared left-turn/right-turn lane.

Site-adjacent improvements shall be constructed in conjunction with the project.

MITIGATION MEASURES

Direct Impacts

The proposed project is forecast to result in no significant traffic impacts at the study intersections for Existing Plus Project conditions, with improvements.

The following improvement is required with project development within the study area to maintain an acceptable Level of Service at the study intersection:

- State Street (NS) at Crows Nest Place (EW) - #2
  - Install Traffic Signal

Cumulative Impacts

In addition to the improvements previously identified for With Project conditions, as shown in the traffic impact analysis reports Opening Year Plus Project Plus Cumulative (EAGPC) conditions, the following improvements are required with cumulative development within the study area to maintain an acceptable Level of Service at the study intersection:

- State Street (NS) at Menlo Avenue (EW) - #4
  - Reconfigure eastbound approach striping to include one left turn lane and one shared through/right lane.
  - Reconfigure westbound approach striping to include one left turn lane, one through lane, and one right turn lane.
  - Modify traffic signal phasing to provide permissive eastbound and westbound phasing.

The proposed project shall contribute its fair share contribution to this cumulative impact as well as contribution to the City of Hemet Development Impact Fee (DIF) programs for the improvements for Opening Year (2021) Plus Project Plus Cumulative (EAGPC) listed above and other non-specified City determined capital improvement projects within the study area.

Development Impact Fee

Development Impact Fees (DIF) are collected on all new projects from developers building in the City of Hemet. The fees are used to build improvements to serve or to reduce the impact of new developments. Traffic capital improvement projects are funded in part by DIF Fund 329 (Bridges, Streets and Traffic Facilities). The Development Impact Fee provides a funding mechanism for arterial streets, traffic signals, interchange improvements. The City of Hemet Development Impact Fee costs included acquiring (right-of-way), designing, constructing and improving and maintaining of arterial streets from the current lane configuration to the ultimate lane configuration, new traffic signal as warranted, and interchange improvements. As required by City Code, all development projects are required to pay the Development Impact Fee as a condition of development.

At some locations, payment of the City of Hemet Development Impact Fee (DIF) would constitute mitigation of cumulative impacts. As mitigation for potential cumulative impacts, the proposed project shall contribute towards the identified improvements through an adopted traffic impact fee program, or through an equivalent fair share contribution for improvements not covered within such fee programs. Typically, applicable fees include the City of Hemet Development Impact Fee, and the County of Riverside Transportation Uniform Mitigation Fee (TUMF) and Road and Bridge Benefit District (RBBD) programs.

PROJECT TRIP CONTRIBUTION PERCENTAGES

The project fair share is based on the proportion of project peak hour traffic volume contributed to the improvement location relative to the total new peak hour traffic volume for Existing Plus Ambient Growth Plus Project Plus Cumulative (EAGPC) conditions for the phase which requires mitigation.

As shown in Table 9, the improvements required with project development to maintain an acceptable Level of Service at the study intersection and project driveways are shown as not applicable (NA) and will be funded and/or constructed by the applicant.

The project proportional intersection trip contributions have been calculated in Table 9 for study area intersections as a proportion of the anticipated Opening Year (2021) traffic volumes. The intersection percentages are based on the higher of the morning or evening peak hour volumes. Improvements at the project driveways are project design features which shall be constructed by the project.

Improvements which are required with cumulative development and not required under Opening Year (2021) Plus Project (EAGP) conditions within the study area shall be covered by the project fair share contribution estimate for cumulative impact as well as contributions to the City of Hemet Development Impact Fee (DIF) or other applicable fee programs. Costs estimates are sensitive to the quantity and location of work specified for a given installation. These values represent the relative magnitude of the cost and should be verified through the bidding process.

GENERAL RECOMMENDATIONS

On-site improvements and improvements adjacent to the site will be required in conjunction with the proposed development to ensure adequate circulation within the project.

Figure 39 summarizes the circulation recommendations for the proposed project.

- A construction work (temporary) traffic control plans are required by State law in accordance with the standards set forth in the California Manual of Uniform Traffic Control Devices (2014), and shall be submitted to the City of Hemet prior to the issuance of a grading permit or the start of construction. The plan shall identify any roadway, sidewalk, bike route, or bus stop closure and/or detour as well as haul routes and hours of operation. Whenever possible, construction related truck trips should be restricted to off-peak hours, to the extent that conditions permit.

- All roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project should be constructed in accordance with applicable State/ Federal engineering standards and to the satisfaction of the City of Hemet Public Works Department.

- Site-adjacent roadways should be constructed and/or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the City of Hemet Public Works Department.

- Adequate off-street parking should be provided to the satisfaction of City of Hemet Planning Department based on supporting parking and density analysis prepared for the project.

- The final grading, landscaping, and street improvement plans should demonstrate that sight distance standards are met in accordance with applicable City of Hemet/California Department of Transportation sight distance standards.

As is the case for any roadway design, the City of Hemet should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

Table 9
Project Intersection Trip Contribution Percentages

ID Study Intersection	Estimated Construction Cost[1]	Peak Hour	Peak Hour Volume: Existing	Peak Hour Volume: Existing Plus Ambient Growth With Project With Cumulative (EAGPC)	Peak Hour Volume: Project Trips	Peak Hour Volume: New Trips	Peak Hour Volume: Project % of New Trips	Project % at Intersection[2]	Project Fair Share Cost
Year (2021)									
1. State Street at Esplanade Avenue	$0	AM	2,614	3,058	54	444	12.2%	12.2%	$0
		PM	3,227	3,882	47	655	7.2%		
2. State Street at Crows Nest	NA[3]	AM	1,314	1,682	111	368	30.2%	30.2%	NA[3]
		PM	1,645	2,200	101	555	18.2%		
3. State Street at Fruitvale Avenue	$0	AM	1,591	1,945	57	354	16.1%	16.1%	$0
		PM	1,826	2,391	54	565	9.6%		
4. State Street at Menlo Avenue[4]	$100,000	AM	1,913	2,342	54	429	12.6%	12.6%	$12,587
		PM	2,366	3,059	51	693	7.4%		
5. State Street at Devonshire Avenue	$0	AM	1,446	1,872	43	426	10.1%	10.1%	$0
		PM	1,798	2,546	36	748	4.8%		
6. State Street at Florida Avenue	$0	AM	2,589	3,259	37	670	5.5%	5.5%	$0
		PM	3,583	4,756	30	1,173	2.6%		
7. Project West Access at Crows Nest	NA[3]	AM	11	96	85	85	100.0%	100.0%	NA[3]
		PM	20	91	71	71	100.0%		
8. Project East Access at Crows Nest	NA[3]	AM	11	122	111	111	100.0%	100.0%	NA[3]
		PM	20	121	101	101	100.0%		
TOTAL	$100,000								$12,587

Notes:

(1) Cost estimate based on values from the San Bernardino County Transportation Authority Preliminary Construction Cost Estimates For Congestion Management Program (2003). Costs estimates are sensitive to the quantity and location of work specified for a given installation. These values represent the relative magnitude of the cost and should be verified through the bidding process.

(2) Project share of new trips shown are the greater of the AM or PM percent contribution.

(3) NA = Not Applicable. Project related improvement to mitigate direct impacts and/or improve level of service. Improvements to State Street and Crows Nest Place intersection and at project access intersections will be funded and/or constructed by the applicant.

(4) Improvements to State Street and Menlo Avenue intersection to modify striping on Menlo Avenue and the signal control for the eastbound-westbound legs from split to permissive. The striping modification on existing pavement on the east and west legs of Menlow from 2 lane undivided to 2 lanes divided on the west leg and 3 lane undivided to 3 lanes divided on the east leg.

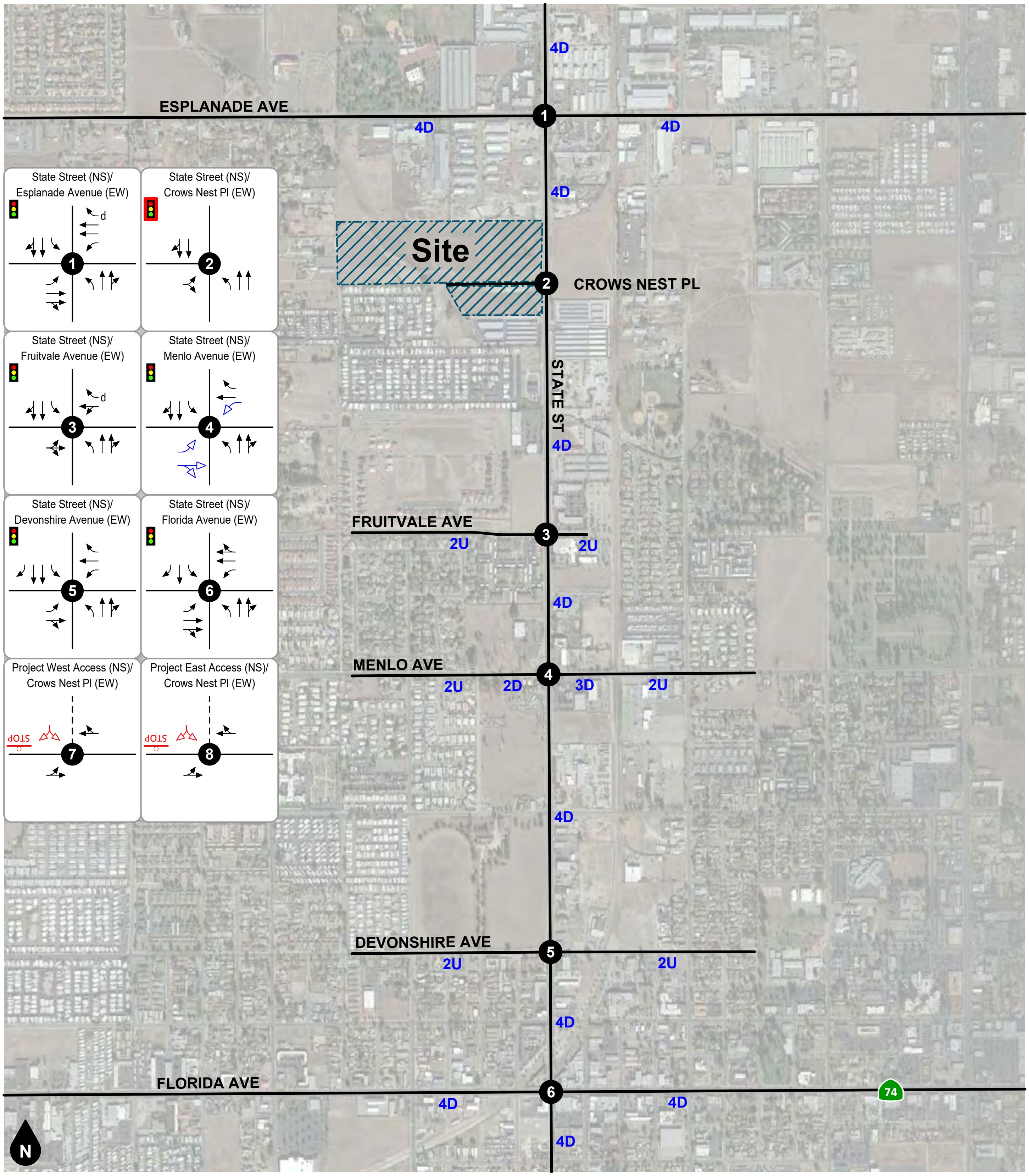
Table 10
Summary of Intersection Levels of Service

ID	Study Intersection	Control[1]	Existing				Existing Plus Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS[3]	Delay	LOS	Delay	LOS	Delay	LOS
1.	State Street at Esplanade Avenue	TS	21.4	C	27.1	C	24.3	C	28.0	C
2.	State Street at Crows Nest	CSS	17.5	C	21.2	C	36.5	E	82.9	F
	With Improvements	TS	-		-		8.2	A	15.0	B
3.	State Street at Fruitvale Avenue	TS	12.1	B	11.0	B	12.2	B	11.2	B
4.	State Street at Menlo Avenue	TS	31.8	C	41.1	D	36.9	D	42.5	D
5.	State Street at Devonshire Avenue	TS	16.1	B	16.5	B	16.5	B	16.5	B
6.	State Street at Florida Avenue	TS	22.4	C	29.2	C	26.0	C	31.4	C
7.	Project West Access at Crows Nest	CSS	-		-		10.0	A	9.8	A
8.	Project East Access at Crows Nest	CSS	-		-		9.9	A	9.8	A

PHASE 1			Existing Plus Ambient Growth (2021) With Project (EAGP)				Opening Year (2021) With Project (EAGPC)			
ID	Study Intersection	Control[1]	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS[3]	Delay	LOS	Delay	LOS	Delay	LOS
1.	State Street at Esplanade Avenue	TS	24.4	C	28.4	C	25.2	C	33.7	C
2.	State Street at Crows Nest	CSS	23.8	C	34.2	D	30.1	D	70.1	F
	With Improvements	TS					5.4	A	19.8	B
3.	State Street at Fruitvale Avenue	TS	12.4	B	11.5	B	13.9	B	13.8	B
4.	State Street at Menlo Avenue	TS	37.7	D	42.9	D	49.2	D	81.5	F
	With Improvements	TS	-		-		20.6	C	27.2	C
5.	State Street at Devonshire Avenue	TS	16.7	B	16.7	B	17.0	B	17.4	B
6.	State Street at Florida Avenue	TS	26.1	C	32.2	C	28.9	C	49.8	D
7.	Project West Access at Crows Nest	CSS	9.4	A	9.4	A	9.4	A	9.4	A
8.	Project East Access at Crows Nest	CSS	9.1	A	9.1	A	9.1	A	9.1	A

PHASE 2			Existing Plus Ambient Growth (2024) With Project (EAGP)				Opening Year (2024) With Project (EAGPC)			
ID	Study Intersection	Control[1]	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay[2]	LOS[3]	Delay	LOS	Delay	LOS	Delay	LOS
1.	State Street at Esplanade Avenue	TS	25.0	C	30.7	C	26.1	C	39.0	D
2.	State Street at Crows Nest	CSS	46.7	E	144.5	F	74.2	F	411.3	F
	With Improvements	TS	8.3	A	18.6	B	8.4	A	21.5	C
3.	State Street at Fruitvale Avenue	TS	13.1	B	12.3	B	14.8	B	15.0	B
4.	State Street at Menlo Avenue	TS	40.3	D	51.3	D	54.3	D	106.5	F
	With Improvements	TS	-		-		21.7	C	30.0	C
5.	State Street at Devonshire Avenue	TS	17.1	B	17.1	B	17.5	B	17.9	B
6.	State Street at Florida Avenue	TS	27.1	C	33.9	C	31.0	C	53.6	D
7.	Project West Access at Crows Nest	CSS	10.0	A	9.8	A	10.0	A	9.8	A
8.	Project East Access at Crows Nest	CSS	9.9	A	9.9	A	9.9	A	9.9	A

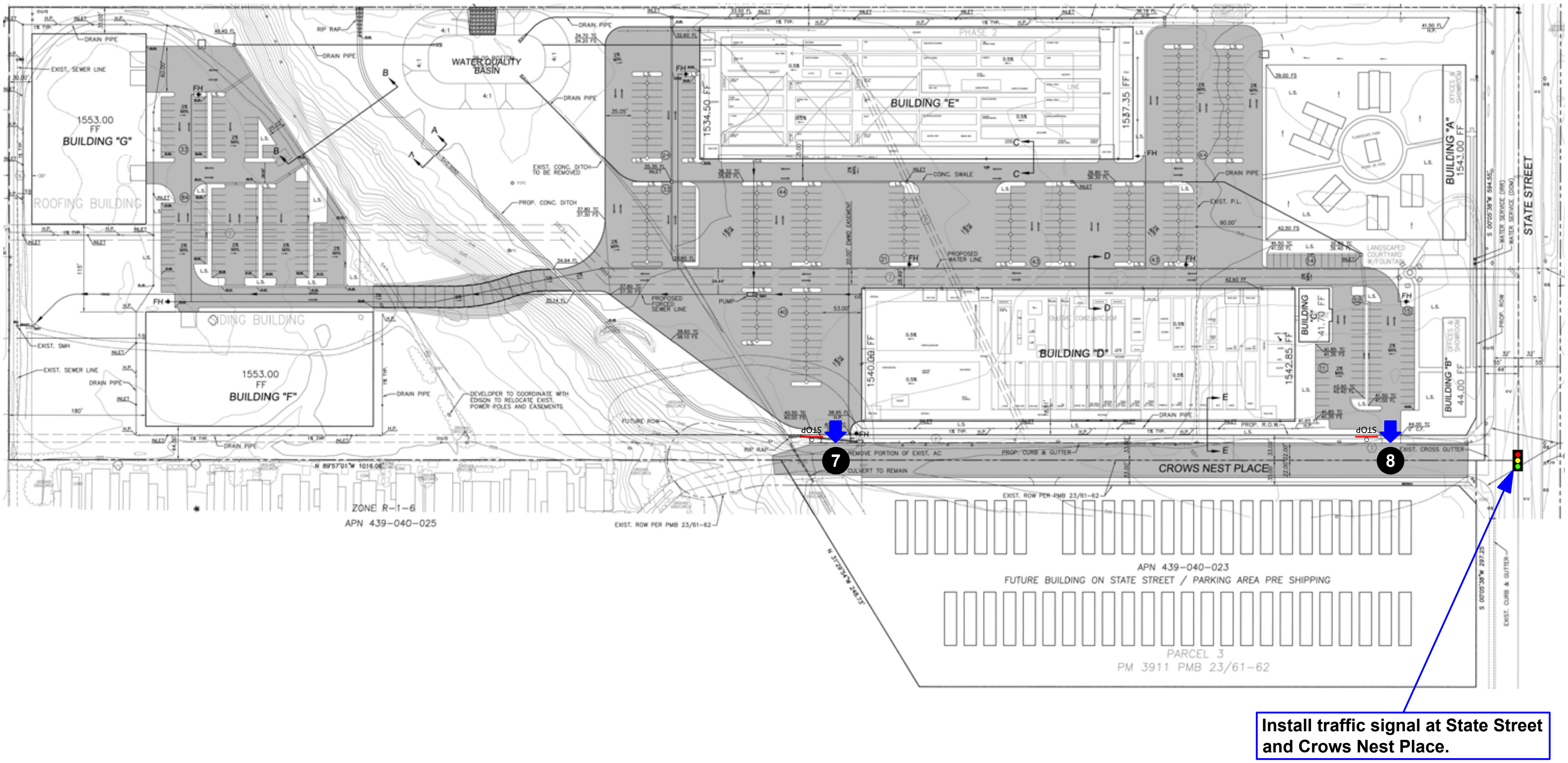
Notes:
(1) TS = Traffic Signal; CSS = Cross Street Stop.
(2) Delay is shown in seconds per vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).
(3) LOS = Level of Service



Legend
- Traffic Signal
- STOP Stop Sign
- **#D** #-Lane Divided Roadway
- **#U** #-Lane Undivided Roadway
- Existing Lane
- d De Facto Right Turn Lane
- Project Improvement
- Cumulative Conditions Improvement
- - - - Project Driveway

Figure 38
Summary of Improvements

gandini



Legend

- Traffic Signal
- Stop Sign
- Full Access Driveway
- Project Access Driveway

Figure 39
Circulation Recommendations

S2A Modular Manufacturing
Traffic Impact Analysis
19-0164

APPENDICES

Appendix A Glossary
Appendix B Scoping Agreement
Appendix C Volume Count Worksheets
Appendix D Level of Service Worksheets
Appendix E Traffic Signal Warrant Worksheets
Appendix F Level of Service Worksheets - Caltrans

APPENDIX A

GLOSSARY

GLOSSARY OF TERMS

ACRONYMS

AC	Acres
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
DU	Dwelling Unit
ICU	Intersection Capacity Utilization
LOS	Level of Service
TSF	Thousand Square Feet
V/C	Volume/Capacity
VMT	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The average 24-hour volume for a stated period divided by the number of days in that period. For example, Annual Average Daily Traffic is the total volume during a year divided by 365 days.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A point of constriction along a roadway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CONTROL DELAY: The component of delay, typically expressed in seconds per vehicle, resulting from the type of traffic control at an intersection. Control delay is measured by comparison with the uncontrolled condition; it includes delay incurred by slowing down, stopping/waiting, and speeding up.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CORNER SIGHT DISTANCE: The minimum sight distance required by the driver of a vehicle to cross or enter the lanes of the major roadway without requiring approaching traffic travelling at a given speed to radically alter their speed or trajectory. Corner sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 36 inches above the pavement in the center of the nearest approach lane.

CYCLE LENGTH: The time period in seconds required for a traffic signal to complete one full cycle of indications.

CUL-DE-SAC: A local street open at one end only and with special provisions for turning around.

DAILY CAPACITY: A theoretical value representing the daily traffic volume that will typically result in a peak hour volume equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

PASSENGER CAR EQUIVALENT (PCE): A metric used to assess the impact of larger vehicles, such as trucks, recreational vehicles, and buses, by converting the traffic volume of larger vehicles to an equivalent number of passenger cars.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

QUEUE: The number of vehicles waiting at a service area such as a traffic signal, stop sign, or access gate.

QUEUE LENGTH: The length of vehicle queue, typically expressed in feet, waiting at a service area such as a traffic signal, stop sign, or access gate.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SHARED/RECIPROCAL PARKING AGREEMENT: A written binding document executed between property owners to provide a designated number of off-street parking stalls within a designated area to be available for specified businesses or land uses.

SIGHT DISTANCE: The continuous length of roadway visible to a driver or roadway user.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STACKING DISTANCE: The length of area available behind a service area, such as a traffic signal or gate, for vehicle queueing to occur.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through an intersection.

STOPPING SIGHT DISTANCE: The minimum distance required by the driver of a vehicle on the major roadway travelling at a given speed to bring the vehicle to a stop after an object on the road becomes visible. Stopping sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 6 inches above the pavement.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination (i.e., each trip has two trip-ends). A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

TURNING RADIUS: The circular arc formed by the smallest turning path radius of the front outside tire of a vehicle, such as that performed by a U-turn maneuver. This is based on the length and width of the wheel base as well as the steering mechanism of the vehicle.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

SCOPING AGREEMENT

Perrie Ilercil

From:	Robert Vestal <RVestal@cityofhemet.org>
Sent:	Tuesday, July 16, 2019 9:49 AM
To:	Perrie Ilercil
Cc:	DeAnna Robertson; Crystal Robinson
Subject:	RE: S2A Modular project
Attachments:	H P Kang MBA.VCF

Perrie:

The scoping agreement looks fine. You do not have to wait until August however please include a discussion regarding the potential effects of school traffic. Also please make sure to discuss minor roads and entrances in the report.

The planner will be H.P. Kang, see attached.

Robert L. Vestal, P.E.
Principal Engineer
Engineering Department
510 E. Florida Avenue
Hemet, CA 92543
O: 951.765.3847
F: 951.765.3878

From: Crystal Robinson
Sent: Tuesday, July 09, 2019 2:22 PM
To: Robert Vestal <RVestal@cityofhemet.org>
Cc: DeAnna Robertson <DRobertson@cityofhemet.org>
Subject: FW: S2A Modular project

Hi Robert,

Do you know what this is and what I should do with it? I don't recall having a PO for this company, should we?

Crystal Robinson
Procurement Administrator
City of Hemet
951 765 2348

From: Perrie Ilercil [mailto:perrie@ganddini.com]
Sent: Tuesday, July 09, 2019 2:17 PM
To: Crystal Robinson <CRobinson@cityofhemet.org>; DeAnna Robertson <DRobertson@cityofhemet.org>
Subject: FW: S2A Modular project

Hi Crystal / Deanna,

See the attached traffic impact scoping agreement for the S2A Modular Manufacturing project in the City of Hemet.

Please review scoping agreement, and let me know if counts can be obtained prior to school starting in August for this roadway.

I also need the planner contact or weblink for listing and/or map of currently pending/recently approved projects of the other development within the City.

Thank you for your help with this matter.

Sincerely,

Perrie Ilercil, **PE (AZ)**
Senior Engineer

GANDDINI GROUP, INC.
550 Parkcenter Drive, Suite 202
Santa Ana, CA 92705
o. 714 795 3100 x 103
c. **949 257-3126**
e: **perrie@ganddini.com**
www.ganddini.com

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the Riverside County Transportation Department requirements for traffic impact analysis of the following project. The analysis must follow the City of Hemet Guidelines.

Case No. CUP 19-004
Related Cases -
SP No.
EIR No.
GPA No.
CZ No.
Project Name: S2A Modular Manufacturing Project
Project Address: NWC of State Street and Crows Nest Place Hemet, CA
Project Description: Phased construction of a total of 250,000 SF manufacturing facility for modular housing.

	Consultant	Developer
Name:	Ganddini Group, Inc., Perrie Ilercil	S2A Modular, Lucy Martinez Project Manager
Address:	550 Parkcenter Drive Suite 202	24360 Village Walk Place Ste. A
	Santa Ana, CA 92705	Murrietta, CA
Telephone:	714-795-3100 office	951-760-4887 office
Fax:	949-257-3126 cell PERRIE ILERCIL	951-4472649 direct line

A. Trip Generation Source: Institute of Transportation Engineers, Trip Generation Manual, 10th Ed., 2017

	Current		Proposed
GP Land Use / Proposed Land Use	Vacant		Manufacturing
Zoning	C-M		C-M

	Current In	Current Out	Current Total	Proposed In	Proposed Out	Proposed Total
AM Trips	-	-	-	182	55	237
PM Trips	-	-	-	69	151	220

Internal Trip Allowance ☐ Yes ☒ No (______ % Trip Discount)
Pass-By Trip Allowance ☐ Yes ☒ No (______ % Trip Discount)

A passby trip discount of 25% is allowed for appropriate land uses. The passby trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution: N 10/25 % S 10/25 % E 40/15 % W 40/35 %
(attach exhibit for detailed assignment)

C. Background Traffic

Project Build-out Year: 2024 Annual Ambient Growth Rate: 2.0 %

Phase Year(s) Phase 1 (2021) / Phase 2 (2024)
Other area projects to be analyzed: Please provide other development listing.

Model/Forecast methodology Ambient growth

Exhibit B – Scoping Agreement – Page 2

D. Study intersections: *(NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)*

1. State Street (NS) & Esplanade Avenue (EW)
2. State Street (NS) & Crows Nest Place (EW)
3. State Street (NS) & Fruitvale Avenue (EW)
4. State Street (NS) & Menlo Avenue (EW)
5. State Street (NS) & Devonshire Avenue (EW)
6. State Street (NS) & Florida Avenue (EW)
7.
8.
9.
10.

E. Study Roadway Segments: *(NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)*

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

E. Other Jurisdictional Impacts

Is this project within a City's Sphere of Influence or one-mile radius of City boundaries? ☒ Yes ☐ No

If so, name of City Jurisdiction: San Jacinto

F. Site Plan (please attach reduced copy)

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Transportation Department)
(NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted," or similar statement) at an existing unsignalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.)

H. Existing Conditions

Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.
Date of counts______________________________

***NOTE* Traffic Study Submittal Form and appropriate fee must be submitted with, or prior to submittal of this form. Transportation Department staff will not process the Scoping Agreement prior to receipt of the fee.**

Recommended by: [signature] 07.08.2019

Consultant's Representative   Date

Approved Scoping Agreement:

Riverside County Transportation Department   Date

Scoping Agreement Submitted on ____________

Revised on ____________

Table 1
Project Trip Generation

Land Use/Vehicle Type	Source[1]	Trip Generation Rates per TSF[2] AM Peak Hour % In	% Out	Total	PM Peak Hour % In	% Out	Total	Daily
Manufacturing	130	77%	23%	0.62	31%	69%	0.67	3.93
Percent Cars	[a]	--	--	60.53%	--	--	76.83%	78.60%
Percent Trucks	[a]	--	--	39.47%	--	--	23.17%	21.40%
Car Trips per TSF		0.289	0.086	0.375	0.160	0.355	0.515	3.089
Truck Trips per TSF		0.188	0.056	0.244	0.048	0.107	0.155	0.841
Truck Breakdown by Axle	Percent[3]							
2-Axle Trucks	32.70%	0.061	0.018	0.079	0.016	0.035	0.051	0.275
3-Axle Trucks	17.90%	0.034	0.010	0.044	0.009	0.019	0.028	0.151
4+ Axle Trucks	49.40%	0.093	0.028	0.121	0.024	0.053	0.077	0.415

Vehicle Trips Generated

Land Use/Vehicle Type	Quantity (TSF)	AM Peak Hour In	Out	Total	PM Peak Hour In	Out	Total	Daily
Manufacturing	250.000							
Cars		72	22	94	40	89	129	772
Trucks								
2-Axle Trucks		15	5	20	4	9	13	69
3-Axle Trucks		9	3	11	2	5	7	38
4+ Axle Trucks		23	7	30	6	13	19	104
Subtotal Trucks		47	15	61	12	27	39	211
TOTAL VEHICLE TRIPS GENERATED		**119**	**37**	**156**	**52**	**116**	**168**	**983**

Passenger Car Equivalent (PCE) Trips Generated

Land Use/Vehicle Type	Quantity (TSF)	AM Peak Hour In	Out	Total	PM Peak Hour In	Out	Total	Daily
Manufacturing	250.000							
Cars		72	22	94	40	89	129	772
Trucks	PCE Factor[4]							
2-Axle Trucks	1.5	23	7	30	6	13	19	103
3-Axle Trucks	2.0	17	5	22	5	9	14	76
4+ Axle Trucks	3.0	70	21	91	18	40	58	311
Subtotal Trucks	--	110	33	143	29	62	91	490
TOTAL VEHICLE TRIPS GENERATED		**182**	**55**	**237**	**69**	**151**	**220**	**1,262**

Notes:

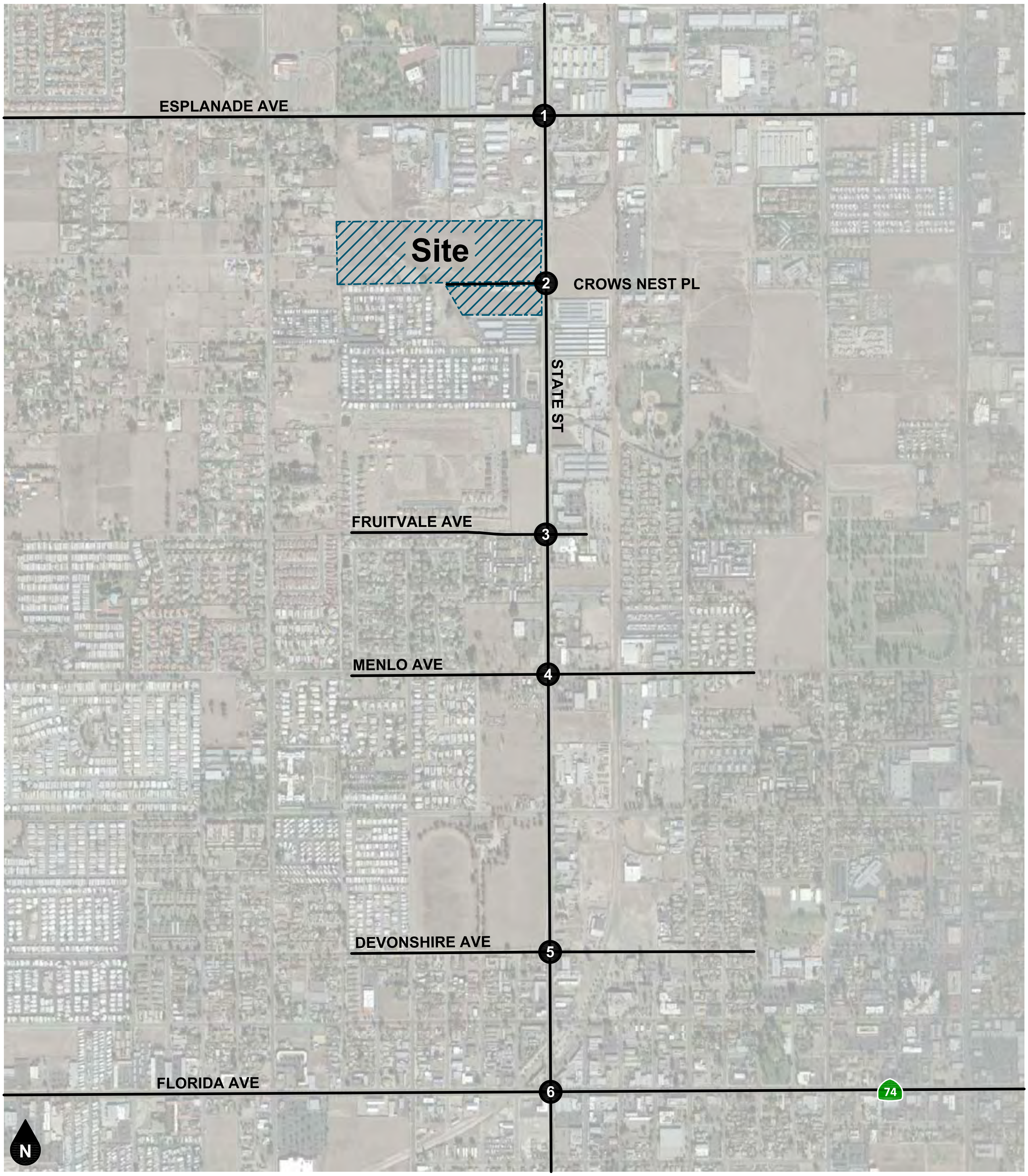
(1) Source: Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017, Land Use Code ###.

[a] City of Fontana, Truck Trip Generation Study, August 2003. Light industrial values used for manufacturing.

(2) TSF = Thousand Square Feet

(3) Truck by axle percentages obtained from City of Fontana, Truck Trip Generation Study, August 2003.

(4) PCE factors recommended by County of San Bernardino Congestion Management Program.



Legend
Study Intersection

Figure 1
Project Location Map

ganddini

S2A Modular Manufacturing
Traffic Impact Analysis
19-0164

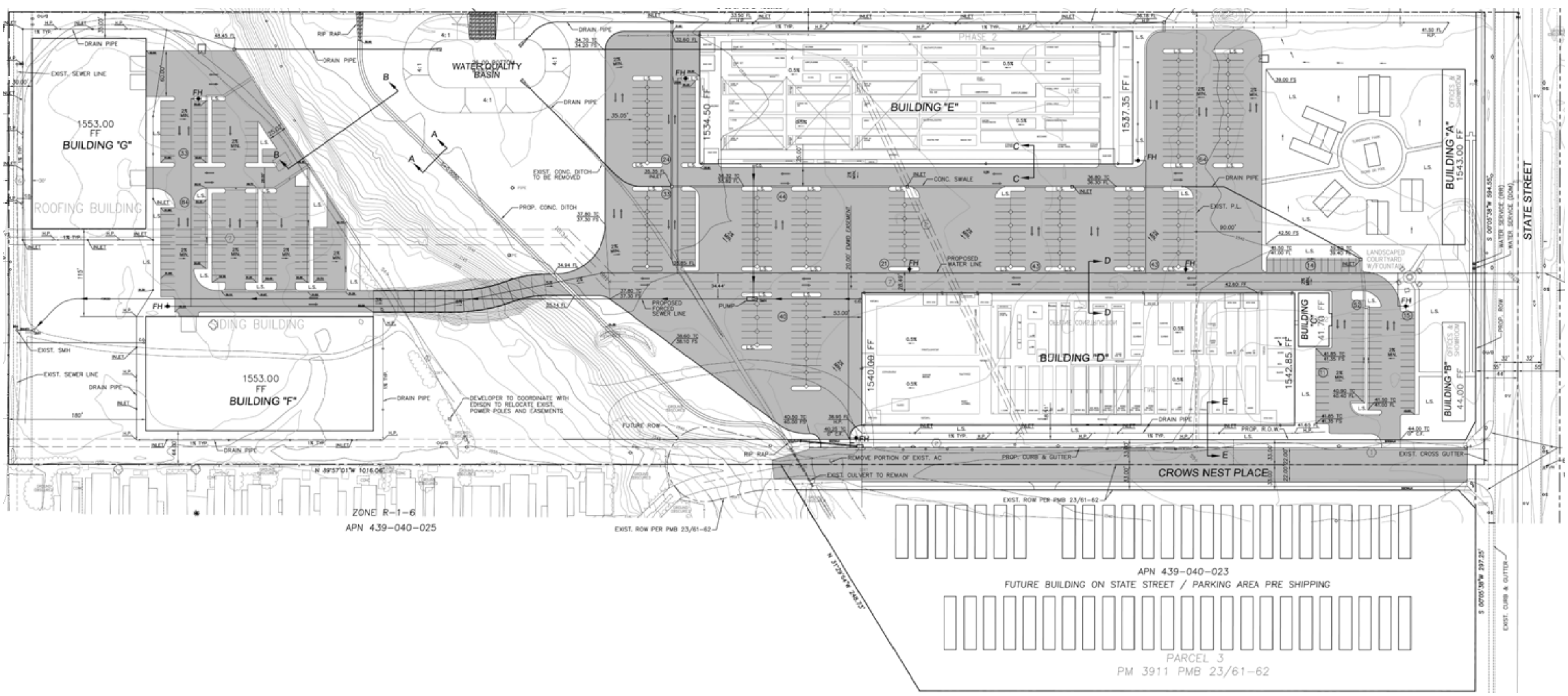
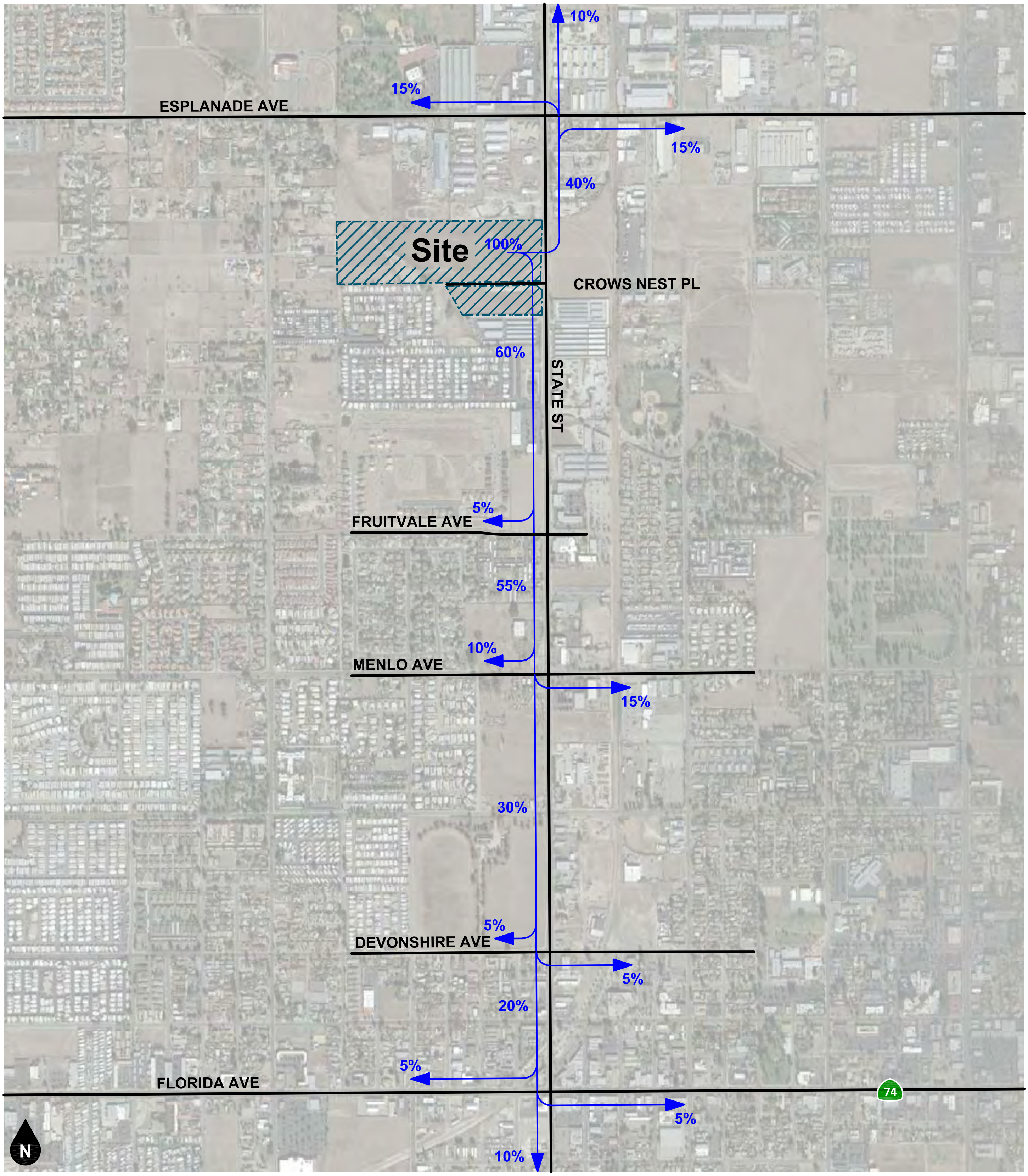


Figure 2
Site Plan

S2A Modular Manufacturing
Traffic Impact Analysis
19-0164



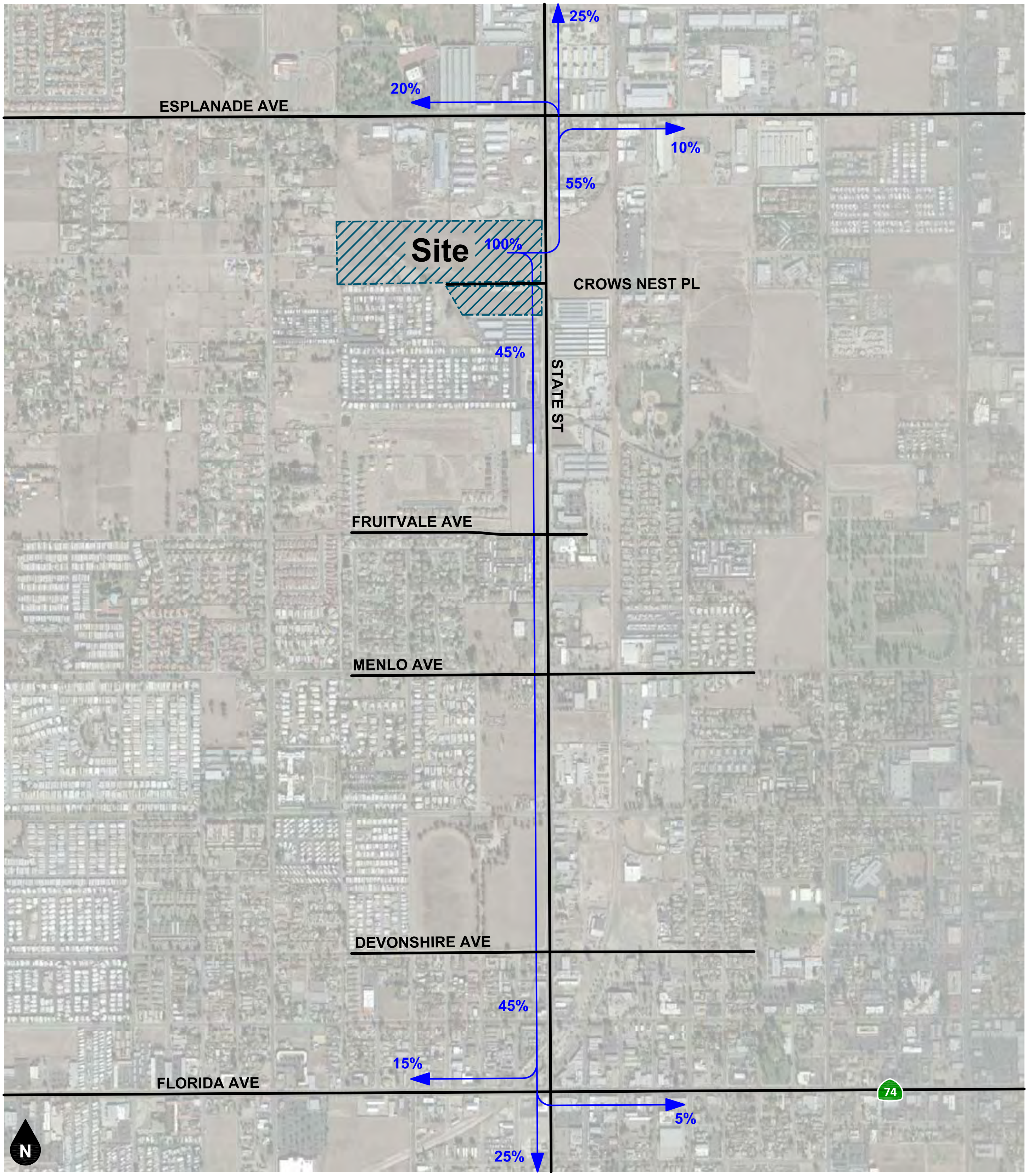
Legend

10% Percent To/From Project

Figure 3
Project Trip Distribution - Cars

gandini

S2A Modular Manufacturing
Traffic Impact Analysis
19-0164



Legend
10% Percent To/From Project

Figure 4
Project Trip Distribution - Trucks

ganddini

S2A Modular Manufacturing
Traffic Impact Analysis
19-0164

APPENDIX C

VOLUME COUNT WORKSHEETS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 7/25/19 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Hemet State Esplanade	PROJECT #: LOCATION #: CONTROL:	SC2299 1 SIGNAL

	NOTES:								AM PM MD OTHER OTHER	N
PCE Adjusted	Class	1	2	3	4	5	6			◄ W E ►
	Factor	1	1.5	2	3	2	2			S

		NORTHBOUND State			SOUTHBOUND State			EASTBOUND Esplanade			WESTBOUND Esplanade		
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	1	2	0	1	2	0	
AM	7:00 AM	4	79	14	31	67	13	14	52	8	11	56	25	372
	7:15 AM	6	68	15	47	78	9	11	42	10	10	66	32	393
	7:30 AM	8	87	15	27	93	12	6	63	14	9	67	38	435
	7:45 AM	8	121	17	32	112	21	12	74	21	29	67	29	540
	8:00 AM	8	82	9	34	96	12	19	59	10	20	83	29	459
	8:15 AM	8	82	20	24	115	22	11	72	9	14	87	31	492
	8:30 AM	8	95	14	40	106	17	7	59	11	12	86	33	484
	8:45 AM	12	110	19	29	108	13	15	82	11	16	79	38	531
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	61	723	122	261	773	117	95	501	93	118	589	254	3,704
	APPROACH %	7%	80%	13%	23%	67%	10%	14%	73%	13%	12%	61%	26%	
	APP/DEPART	905	/	1,071	1,151	/	983	688	/	883	961	/	767	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	31	380	59	129	428	71	49	262	50	74	322	121	1,974
	APPROACH %	7%	81%	13%	20%	68%	11%	14%	73%	14%	14%	62%	23%	
	PEAK HR FACTOR		0.809			0.953			0.851			0.986		0.914
	APP/DEPART	470	/	550	627	/	552	361	/	450	517	/	424	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	18	108	20	51	152	18	18	90	19	25	90	34	640
	4:15 PM	21	116	29	45	126	18	25	103	20	26	97	32	656
	4:30 PM	19	123	43	44	128	18	16	98	11	27	97	33	655
	4:45 PM	21	105	24	28	150	17	26	118	17	21	112	30	667
	5:00 PM	16	144	46	67	140	27	27	107	26	31	120	30	778
	5:15 PM	20	114	32	52	126	16	13	124	6	15	113	21	650
	5:30 PM	9	135	34	57	115	18	18	92	11	32	98	22	639
	5:45 PM	12	116	32	50	120	21	21	100	20	28	101	50	668
	VOLUMES	136	959	258	392	1,054	152	163	831	128	203	826	250	5,351
	APPROACH %	10%	71%	19%	25%	66%	10%	15%	74%	11%	16%	65%	20%	
	APP/DEPART	1,353	/	1,372	1,598	/	1,385	1,122	/	1,481	1,279	/	1,114	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	77	487	142	183	543	80	94	426	72	104	425	124	2,755
	APPROACH %	11%	69%	20%	23%	67%	10%	16%	72%	12%	16%	65%	19%	
	PEAK HR FACTOR		0.856			0.865			0.921			0.909		0.886
	APP/DEPART	706	/	705	805	/	719	592	/	750	653	/	582	0

State

NORTH SIDE

Esplanade WEST SIDE

EAST SIDE **Esplanade**

SOUTH SIDE

State

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
7/25/19	LOCATION:	Hemet	PROJECT #:	SC2299
THURSDAY	NORTH & SOUTH:	State	LOCATION #:	2
	EAST & WEST:	Crows Nest	CONTROL:	STOP E

	NOTES:									
PCE Adjusted	Class	1	2	3	4	5	6		AM	N
	Factor	1	1.5	2	3	2	2		PM	◄ W E ►
									MD	S
									OTHER	
									OTHER	

		NORTHBOUND State			SOUTHBOUND State			EASTBOUND Crows Nest			WESTBOUND Crows Nest			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	2	X	X	2	0	0	X	0	X	X	X	
AM	7:00 AM	0	94	0	0	91	0	0	0	0	0	0	0	185
	7:15 AM	0	90	0	0	90	0	1	0	0	0	0	0	181
	7:30 AM	0	120	0	0	116	1	0	0	2	0	0	0	239
	7:45 AM	0	132	0	0	150	0	2	0	1	0	0	0	285
	8:00 AM	0	110	0	0	118	0	1	0	1	0	0	0	230
	8:15 AM	0	113	0	0	125	0	1	0	0	0	0	0	239
	8:30 AM	1	111	0	0	124	0	1	0	0	0	0	0	237
	8:45 AM	2	125	0	0	132	0	0	0	1	0	0	0	260
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	3	895	0	0	945	1	6	0	5	0	0	0	1,854
	APPROACH %	0%	100%	0%	0%	100%	0%	55%	0%	45%	0%	0%	0%	
	APP/DEPART	898	/	901	946	/	950	11	/	0	0	/	4	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	475	0	0	509	1	4	0	4	0	0	0	992
	APPROACH %	0%	100%	0%	0%	100%	0%	50%	0%	50%	0%	0%	0%	
	PEAK HR FACTOR		0.899			0.849			0.667			0.000		0.870
	APP/DEPART	475	/	479	510	/	513	8	/	0	0	/	1	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	145	0	0	181	5	0	0	1	0	0	0	331
	4:15 PM	1	179	0	0	163	1	1	0	2	0	0	0	347
	4:30 PM	0	174	0	0	163	2	0	0	0	0	0	0	339
	4:45 PM	0	159	0	0	173	1	1	0	2	0	0	0	336
	5:00 PM	2	186	0	0	191	1	3	0	1	0	0	0	384
	5:15 PM	2	152	0	0	151	2	3	0	1	0	0	0	311
	5:30 PM	1	172	0	0	151	3	2	0	0	0	0	0	328
	5:45 PM	0	156	0	0	159	1	1	0	1	0	0	0	318
	VOLUMES	6	1,323	0	0	1,330	16	11	0	8	0	0	0	2,692
	APPROACH %	0%	100%	0%	0%	99%	1%	58%	0%	42%	0%	0%	0%	
	APP/DEPART	1,329	/	1,333	1,346	/	1,338	18	/	0	0	/	22	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	3	698	0	0	689	5	5	0	5	0	0	0	1,404
	APPROACH %	0%	100%	0%	0%	99%	1%	50%	0%	50%	0%	0%	0%	
	PEAK HR FACTOR		0.932			0.904			0.643			0.000		0.915
	APP/DEPART	701	/	703	694	/	694	9	/	0	0	/	8	0

State

NORTH SIDE

Crows Nest WEST SIDE

EAST SIDE **Crows Nest**

SOUTH SIDE

State

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Hemet	PROJECT #:	SC2299
7/25/19	NORTH & SOUTH:	State	LOCATION #:	3
THURSDAY	EAST & WEST:	Fruitvale	CONTROL:	SIGNAL

PCE Adjusted	NOTES:								AM		N
	Class	1	2	3	4	5	6		PM		
	Factor	1	1.5	2	3	2	2		MD	◄ W	E ►
									OTHER		S
									OTHER		

		NORTHBOUND State			SOUTHBOUND State			EASTBOUND Fruitvale			WESTBOUND Fruitvale			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0	
AM	7:00 AM	4	90	10	4	83	10	7	1	5	1	0	0	214
AM	7:15 AM	4	81	14	13	84	6	5	8	6	1	0	3	224
AM	7:30 AM	8	115	21	7	107	9	6	13	7	5	0	0	298
AM	7:45 AM	4	133	30	16	116	6	11	7	18	9	0	2	350
AM	8:00 AM	3	105	20	15	109	8	5	5	10	1	1	3	285
AM	8:15 AM	9	103	17	11	100	8	5	3	7	2	1	4	270
AM	8:30 AM	3	97	10	7	115	5	14	5	3	9	2	7	277
AM	8:45 AM	5	122	14	6	119	8	6	3	9	7	1	7	306
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	39	845	135	79	831	59	59	45	64	35	5	26	2,221
AM	APPROACH %	4%	83%	13%	8%	86%	6%	35%	27%	38%	53%	8%	39%	
AM	APP/DEPART	1,019	/	930	969	/	930	167	/	259	66	/	103	0
AM	BEGIN PEAK HR		7:30 AM											
AM	VOLUMES	24	456	87	49	431	31	27	28	41	17	2	9	1,201
AM	APPROACH %	4%	80%	15%	10%	84%	6%	28%	29%	43%	61%	7%	32%	
AM	PEAK HR FACTOR		0.853			0.929			0.682			0.636		0.859
AM	APP/DEPART	567	/	492	511	/	489	96	/	164	28	/	57	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	20	137	2	2	171	12	6	1	16	14	2	6	389
PM	4:15 PM	9	149	8	2	164	6	11	0	9	5	1	8	371
PM	4:30 PM	13	170	4	6	144	13	6	0	10	12	7	3	387
PM	4:45 PM	8	134	5	4	161	9	9	0	12	4	7	5	358
PM	5:00 PM	14	180	4	0	184	10	12	0	11	16	8	6	444
PM	5:15 PM	8	145	1	2	140	13	10	0	11	4	2	1	337
PM	5:30 PM	14	148	4	0	153	20	8	0	9	5	1	5	366
PM	5:45 PM	11	137	3	2	145	7	5	0	13	9	1	1	334
PM	VOLUMES	96	1,199	30	18	1,261	89	67	1	91	69	29	35	2,984
PM	APPROACH %	7%	90%	2%	1%	92%	6%	42%	1%	57%	52%	22%	26%	
PM	APP/DEPART	1,325	/	1,301	1,367	/	1,421	159	/	49	133	/	214	0
PM	BEGIN PEAK HR		4:15 PM											
PM	VOLUMES	43	633	20	12	652	38	38	0	42	37	23	22	1,559
PM	APPROACH %	6%	91%	3%	2%	93%	5%	48%	0%	53%	45%	28%	27%	
PM	PEAK HR FACTOR		0.880			0.906			0.870			0.683		0.878
PM	APP/DEPART	696	/	693	702	/	731	80	/	32	82	/	104	0

State

NORTH SIDE

Fruitvale WEST SIDE EAST SIDE **Fruitvale**

SOUTH SIDE

State

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 7/25/19 THURSDAY	LOCATION:	Hemet	PROJECT #:	SC2299
	NORTH & SOUTH:	State	LOCATION #:	4
	EAST & WEST:	Menlo	CONTROL:	SIGNAL

PCE Adjusted	NOTES:								AM PM MD OTHER OTHER	N ▲ S ▼ ◄ W E ►
	Class	1	2	3	4	5	6			
	Factor	1	1.5	2	3	2	2			

	NORTHBOUND State			SOUTHBOUND State			EASTBOUND Menlo			WESTBOUND Menlo			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	1	0	0	1	1	
AM 7:00 AM	3	82	7	15	75	3	8	17	10	5	23	26	272
7:15 AM	2	80	5	16	67	4	12	20	3	5	22	26	259
7:30 AM	7	101	3	23	81	7	13	36	4	4	26	30	333
7:45 AM	3	122	13	24	114	2	17	35	10	2	39	40	419
8:00 AM	5	91	15	19	106	4	18	30	9	5	25	28	353
8:15 AM	5	101	8	23	74	11	3	29	5	7	42	22	327
8:30 AM	6	88	13	18	97	9	14	39	9	3	36	15	344
8:45 AM	4	99	8	16	115	6	9	37	9	4	36	32	373
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	33	762	69	152	727	46	93	242	58	34	247	217	2,678
APPROACH %	4%	88%	8%	16%	79%	5%	24%	62%	15%	7%	50%	44%	
APP/DEPART	864	/	1,072	924	/	819	393	/	463	498	/	325	0
BEGIN PEAK HR		7:45 AM											
VOLUMES	18	401	48	83	390	26	52	133	33	17	141	104	1,443
APPROACH %	4%	86%	10%	17%	78%	5%	24%	61%	15%	6%	54%	40%	
PEAK HR FACTOR		0.847			0.896			0.882			0.807		0.861
APP/DEPART	466	/	557	498	/	439	217	/	263	262	/	185	0
PM 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	15	120	18	36	148	12	9	45	10	11	54	26	502
4:15 PM	5	137	18	28	149	20	8	54	10	12	61	24	523
4:30 PM	9	122	13	17	143	24	16	60	11	12	35	29	488
4:45 PM	6	111	15	19	140	12	13	51	6	9	53	20	452
5:00 PM	5	154	20	45	161	29	18	48	2	11	41	24	556
5:15 PM	4	116	22	31	110	21	14	71	7	5	58	20	477
5:30 PM	6	148	25	36	119	15	15	53	6	12	61	24	518
5:45 PM	3	110	15	36	124	9	12	48	11	15	46	23	451
VOLUMES	53	1,016	144	247	1,093	139	103	428	62	87	408	189	3,966
APPROACH %	4%	84%	12%	17%	74%	9%	17%	72%	10%	13%	60%	28%	
APP/DEPART	1,212	/	1,307	1,479	/	1,242	593	/	818	683	/	599	0
BEGIN PEAK HR		4:15 PM											
VOLUMES	25	523	65	108	592	84	54	212	28	44	190	96	2,019
APPROACH %	4%	85%	11%	14%	76%	11%	18%	72%	10%	13%	58%	29%	
PEAK HR FACTOR		0.860			0.835			0.855			0.854		0.908
APP/DEPART	612	/	673	784	/	664	294	/	385	330	/	298	0

State

NORTH SIDE

Menlo WEST SIDE EAST SIDE **Menlo**

SOUTH SIDE

State

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Hemet	PROJECT #:	SC2299
7/25/19	NORTH & SOUTH:	State	LOCATION #:	5
THURSDAY	EAST & WEST:	Devonshire	CONTROL:	SIGNAL

PCE Adjusted	NOTES:									AM		▲ N	
	Class	1	2	3	4	5	6			PM			
	Factor	1	1.5	2	3	2	2			MD	◄ W		E ►
										OTHER		S ▼	
										OTHER			

		NORTHBOUND (State)			SOUTHBOUND (State)			EASTBOUND (Devonshire)			WESTBOUND (Devonshire)			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	1	1	1	0	1	1	1	
AM	7:00 AM	3	70	1	3	62	11	13	9	3	2	6	6	187
AM	7:15 AM	2	76	2	7	64	8	13	11	9	0	4	6	200
AM	7:30 AM	2	109	2	10	78	13	11	20	5	1	6	0	256
AM	7:45 AM	2	111	1	12	87	15	14	22	12	4	7	1	288
AM	8:00 AM	4	94	3	13	103	8	12	26	5	4	9	4	283
AM	8:15 AM	8	90	2	10	79	13	12	10	10	1	7	6	247
AM	8:30 AM	1	88	2	6	76	12	14	17	6	3	11	8	243
AM	8:45 AM	2	97	6	11	117	17	16	25	15	1	9	5	319
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	24	734	19	71	665	96	104	138	65	16	57	35	2,020
AM	APPROACH %	3%	95%	2%	9%	80%	11%	34%	45%	21%	15%	53%	33%	
AM	APP/DEPART	776	/	873	831	/	745	306	/	227	108	/	176	0
AM	BEGIN PEAK HR		8:00 AM											
AM	VOLUMES	15	369	13	39	375	49	54	77	36	9	35	23	1,091
AM	APPROACH %	4%	93%	3%	8%	81%	11%	32%	46%	22%	14%	52%	34%	
AM	PEAK HR FACTOR		0.946			0.798			0.755			0.767		0.856
AM	APP/DEPART	396	/	445	463	/	420	166	/	128	66	/	98	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	8	120	6	8	135	21	25	26	17	2	18	12	395
PM	4:15 PM	9	138	0	8	149	13	18	19	15	2	15	9	393
PM	4:30 PM	8	123	1	11	128	17	14	14	12	2	14	2	345
PM	4:45 PM	9	133	3	6	140	14	14	35	15	0	15	9	391
PM	5:00 PM	14	136	2	10	143	18	25	18	12	0	20	10	406
PM	5:15 PM	6	119	1	7	98	14	25	29	15	1	30	6	349
PM	5:30 PM	14	144	0	7	137	8	12	22	8	1	12	15	379
PM	5:45 PM	8	104	4	8	110	18	24	28	15	3	15	6	342
PM	VOLUMES	76	1,015	17	64	1,039	122	156	190	107	11	137	68	2,998
PM	APPROACH %	7%	92%	1%	5%	85%	10%	34%	42%	24%	5%	64%	31%	
PM	APP/DEPART	1,108	/	1,238	1,224	/	1,156	452	/	270	215	/	335	0
PM	BEGIN PEAK HR		4:15 PM											
PM	VOLUMES	40	529	6	34	559	61	71	86	53	4	63	29	1,534
PM	APPROACH %	7%	92%	1%	5%	85%	9%	34%	41%	25%	4%	66%	30%	
PM	PEAK HR FACTOR		0.949			0.962			0.816			0.814		0.946
PM	APP/DEPART	575	/	629	654	/	616	209	/	126	96	/	164	0

State

NORTH SIDE

Devonshire WEST SIDE

EAST SIDE **Devonshire**

SOUTH SIDE

State

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 7/25/19 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Hemet State Florida		PROJECT #: LOCATION #: CONTROL:	SC2299 6 SIGNAL

	NOTES:								AM		▲	
PCE	Class	1	2	3	4	5	6		PM		N	
Adjusted	Factor	1	1.5	2	3	2	2		MD	◀ W		E ▶
									OTHER		S	
									OTHER		▼	

		NORTHBOUND State			SOUTHBOUND State			EASTBOUND Florida			WESTBOUND Florida			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	1	1	1	2	0	1	2	0	
AM	7:00 AM	8	33	7	7	38	13	19	86	2	3	124	12	350
AM	7:15 AM	4	52	8	21	28	23	20	91	7	4	117	6	380
AM	7:30 AM	8	72	9	13	28	19	17	110	7	8	139	15	442
AM	7:45 AM	9	80	12	16	52	8	22	130	7	19	136	17	507
AM	8:00 AM	5	62	8	25	53	14	25	128	5	9	136	11	479
AM	8:15 AM	10	70	12	13	55	12	17	109	7	8	117	8	435
AM	8:30 AM	7	54	16	17	46	17	14	134	5	3	157	10	479
AM	8:45 AM	5	81	11	20	59	21	12	153	10	14	171	7	562
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	56	503	82	129	357	126	145	940	48	67	1,096	85	3,632
AM	APPROACH %	9%	79%	13%	21%	58%	21%	13%	83%	4%	5%	88%	7%	
AM	APP/DEPART	640	/	732	612	/	472	1,133	/	1,151	1,247	/	1,277	0
AM	BEGIN PEAK HR		8:00 AM											
AM	VOLUMES	27	266	47	73	213	64	67	524	26	34	580	35	1,954
AM	APPROACH %	8%	78%	14%	21%	61%	18%	11%	85%	4%	5%	89%	5%	
AM	PEAK HR FACTOR		0.875			0.881			0.884			0.849		0.870
AM	APP/DEPART	340	/	368	349	/	272	617	/	644	649	/	671	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	19	68	12	26	77	39	21	218	21	24	216	12	751
PM	4:15 PM	15	62	13	37	79	37	34	201	14	19	191	16	715
PM	4:30 PM	18	67	12	30	81	41	39	195	12	14	184	20	711
PM	4:45 PM	10	77	20	31	85	32	25	199	12	25	205	20	738
PM	5:00 PM	12	73	16	48	69	47	26	259	14	18	243	15	837
PM	5:15 PM	7	78	12	28	66	31	27	225	13	24	208	11	727
PM	5:30 PM	13	72	17	19	63	38	37	231	11	16	219	24	758
PM	5:45 PM	10	79	11	33	78	25	22	186	12	16	199	4	673
PM	VOLUMES	103	574	111	251	597	289	229	1,712	108	154	1,662	122	5,908
PM	APPROACH %	13%	73%	14%	22%	53%	25%	11%	84%	5%	8%	86%	6%	
PM	APP/DEPART	787	/	924	1,136	/	858	2,048	/	2,073	1,937	/	2,053	0
PM	BEGIN PEAK HR		4:45 PM											
PM	VOLUMES	42	299	64	125	282	148	114	914	50	82	873	70	3,059
PM	APPROACH %	10%	74%	16%	22%	51%	27%	11%	85%	5%	8%	85%	7%	
PM	PEAK HR FACTOR		0.948			0.847			0.904			0.931		0.914
PM	APP/DEPART	404	/	482	554	/	413	1,077	/	1,102	1,024	/	1,063	0

State

NORTH SIDE

Florida WEST SIDE EAST SIDE **Florida**

SOUTH SIDE

State

APPENDIX D

LEVEL OF SERVICE WORKSHEETS

EXISTING

S2A Modular Manufacturing

Vistro File: G:\...\AM.vistro
Report File: G:\...\AME.pdf

Scenario 1 Existing
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.518	21.4	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.030	23.6	C
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.451	12.1	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.698	31.8	C
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	SB Left	0.373	16.1	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	EB Left	0.574	22.3	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: State Street / Esplanade Avenue

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Base Volume Input [veh/h]	41	503	78	170	567	93	65	347	66	97	427	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	503	78	170	567	93	65	347	66	97	427	160
Peak Hour Factor	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	138	21	47	155	25	18	95	18	27	117	44
Total Analysis Volume [veh/h]	45	550	85	186	620	102	71	380	72	106	467	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	13	30	0	10	32	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	22	0	0	23	0	0	23	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	3	28	28	39	31	31	21	12	12	21	12	12
g / C, Green / Cycle	0.04	0.41	0.41	0.56	0.44	0.44	0.30	0.17	0.17	0.30	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.17	0.17	0.18	0.19	0.19	0.06	0.12	0.12	0.08	0.13	0.11
s, saturation flow rate [veh/h]	1810	1900	1812	1028	1900	1808	1221	1900	1797	1257	3618	1615
c, Capacity [veh/h]	77	769	733	621	840	800	408	315	298	423	634	283
d1, Uniform Delay [s]	32.96	14.99	15.01	8.47	13.54	13.54	18.38	27.78	27.82	18.72	27.39	26.75
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	6.76	1.70	1.79	0.27	1.67	1.76	0.20	3.30	3.63	0.31	1.69	2.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.58	0.42	0.42	0.30	0.44	0.44	0.17	0.73	0.74	0.25	0.74	0.62
d, Delay for Lane Group [s/veh]	39.72	16.69	16.80	8.73	15.21	15.30	18.58	31.08	31.46	19.03	29.08	28.95
Lane Group LOS	D	B	B	A	B	B	B	C	C	B	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.85	3.58	3.45	1.14	3.83	3.67	0.77	3.62	3.50	1.17	3.50	2.63
50th-Percentile Queue Length [ft/ln]	21.29	89.44	86.18	28.53	95.82	91.66	19.15	90.58	87.41	29.21	87.48	65.63
95th-Percentile Queue Length [veh/ln]	1.53	6.44	6.21	2.05	6.90	6.60	1.38	6.52	6.29	2.10	6.30	4.73
95th-Percentile Queue Length [ft/ln]	38.32	160.98	155.13	51.35	172.48	164.98	34.46	163.04	157.33	52.58	157.46	118.13

Movement, Approach, & Intersection Results

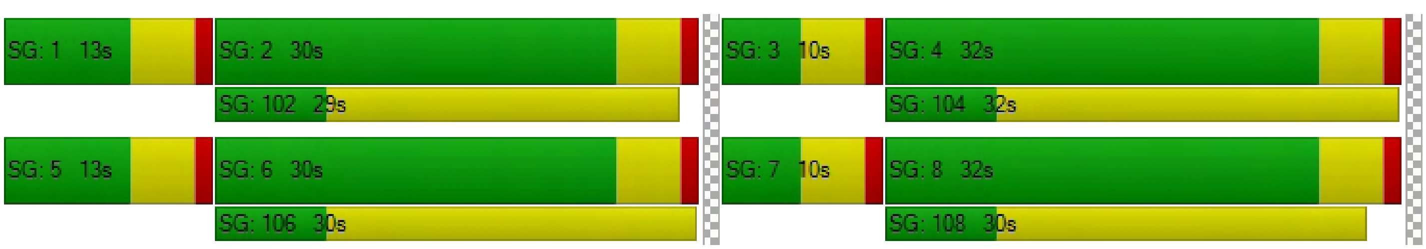
d_M, Delay for Movement [s/veh]	39.72	16.73	16.80	8.73	15.25	15.30	18.58	31.23	31.46	19.03	29.08	28.95
Movement LOS	D	B	B	A	B	B	B	C	C	B	C	C
d_A, Approach Delay [s/veh]	18.26			13.92			29.54			27.62		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	21.40											
Intersection LOS	C											
Intersection V/C	0.518											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.700	2.750	2.619	2.895
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	714	714	771	771
d_b, Bicycle Delay [s]	14.46	14.46	13.21	13.21
I_b,int, Bicycle LOS Score for Intersection	2.121	2.309	1.991	2.177
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	23.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	0	629	674	1	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	629	674	1	5	5
Peak Hour Factor	0.8702	0.8702	0.8702	0.8702	0.8702	0.8702
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	181	194	0	1	1
Total Analysis Volume [veh/h]	0	723	775	1	6	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	9.24	0.00	0.00	0.00	23.64	11.34
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	3.11	3.11
d_A, Approach Delay [s/veh]	0.00		0.00		17.49	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: State Street / Fruitvale Avenue

Control Type:	Signalized	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

Intersection Setup

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Base Volume Input [veh/h]	31	604	115	65	571	41	35	37	54	23	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	604	115	65	571	41	35	37	54	23	3	12
Peak Hour Factor	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	176	33	19	166	12	10	11	16	7	1	3
Total Analysis Volume [veh/h]	36	703	134	76	665	48	41	43	63	27	3	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	28	0	12	27	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	23	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	42	42	4	43	43	9	9	9
g / C, Green / Cycle	0.04	0.60	0.60	0.06	0.62	0.62	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.23	0.04	0.19	0.19	0.10	0.03	0.01
s, saturation flow rate [veh/h]	1810	1900	1796	1810	1900	1855	1403	1043	1615
c, Capacity [veh/h]	66	1143	1080	101	1179	1152	246	232	208
d1, Uniform Delay [s]	33.17	7.18	7.19	32.60	6.22	6.22	29.91	27.24	26.82
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.87	0.95	1.00	10.89	0.67	0.69	2.31	0.25	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.38	0.38	0.76	0.31	0.31	0.60	0.13	0.07
d, Delay for Lane Group [s/veh]	40.04	8.13	8.19	43.49	6.89	6.90	32.22	27.49	26.96
Lane Group LOS	D	A	A	D	A	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.69	2.76	2.63	1.50	2.02	1.98	2.41	0.43	0.20
50th-Percentile Queue Length [ft/ln]	17.29	69.04	65.71	37.42	50.58	49.58	60.26	10.86	4.99
95th-Percentile Queue Length [veh/ln]	1.25	4.97	4.73	2.69	3.64	3.57	4.34	0.78	0.36
95th-Percentile Queue Length [ft/ln]	31.13	124.27	118.28	67.36	91.05	89.24	108.47	19.55	8.99

Movement, Approach, & Intersection Results

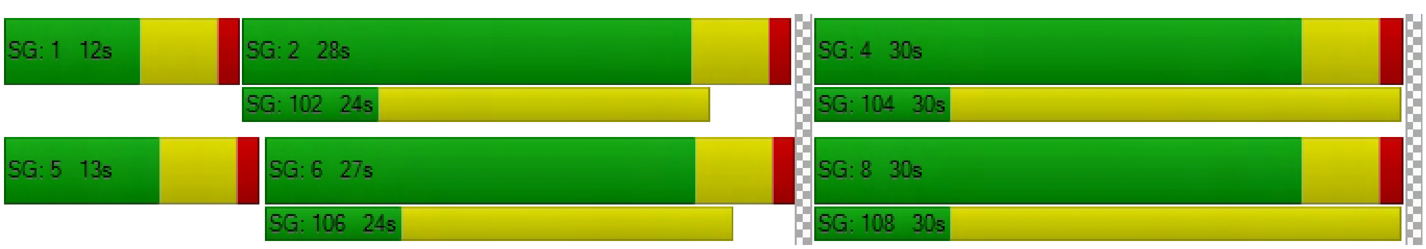
d_M, Delay for Movement [s/veh]	40.04	8.15	8.19	43.49	6.90	6.90	32.22	32.22	32.22	27.49	27.49	26.96
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.47			10.42			32.22			27.32		
Approach LOS	A			B			C			C		
d_I, Intersection Delay [s/veh]	12.11											
Intersection LOS	B											
Intersection V/C	0.451											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.830	2.833	1.853	2.055
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	657	629	714	714
d_b, Bicycle Delay [s]	15.78	16.46	14.46	14.46
I_b,int, Bicycle LOS Score for Intersection	2.280	2.211	1.802	1.632
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	31.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.698

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	24	531	63	110	516	34	69	176	43	22	187	138
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	531	63	110	516	34	69	176	43	22	187	138
Peak Hour Factor	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	154	18	32	150	10	20	51	12	6	54	40
Total Analysis Volume [veh/h]	28	617	73	128	600	40	80	204	50	26	217	160
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	40	0	16	31	0	0	35	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	2	26	26	8	31	31	18	13	13
g / C, Green / Cycle	0.03	0.31	0.31	0.09	0.37	0.37	0.21	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.18	0.19	0.07	0.17	0.17	0.18	0.13	0.10
s, saturation flow rate [veh/h]	1810	1900	1830	1810	1900	1859	1830	1890	1615
c, Capacity [veh/h]	53	584	562	163	699	684	384	299	255
d1, Uniform Delay [s]	40.73	25.05	25.07	37.93	20.49	20.49	32.50	34.62	33.48
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.94	4.54	4.73	8.11	2.20	2.25	6.14	5.34	2.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.53	0.60	0.60	0.79	0.46	0.46	0.87	0.81	0.63
d, Delay for Lane Group [s/veh]	48.67	29.59	29.80	46.04	22.69	22.74	38.64	39.96	36.00
Lane Group LOS	D	C	C	D	C	C	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.69	6.53	6.34	2.87	4.94	4.84	6.92	5.06	3.12
50th-Percentile Queue Length [ft/ln]	17.18	163.24	158.47	71.75	123.40	121.09	173.07	126.55	78.01
95th-Percentile Queue Length [veh/ln]	1.24	10.72	10.47	5.17	8.58	8.45	11.24	8.75	5.62
95th-Percentile Queue Length [ft/ln]	30.93	268.01	261.69	129.15	214.49	211.32	280.94	218.80	140.42

Movement, Approach, & Intersection Results

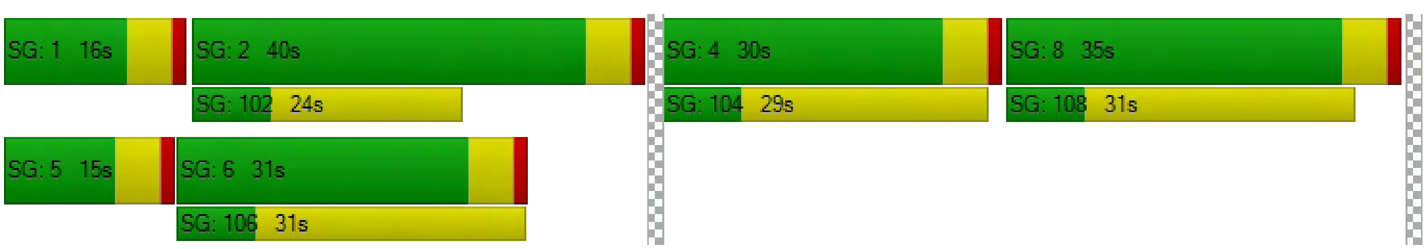
d_M, Delay for Movement [s/veh]	48.67	29.68	29.80	46.04	22.71	22.74	38.64	38.64	38.64	39.96	39.96	36.00
Movement LOS	D	C	C	D	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	30.43			26.60			38.64			38.39		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	31.79											
Intersection LOS	C											
Intersection V/C	0.698											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.676	2.801	2.114	2.287
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	824	612	706	588
d_b, Bicycle Delay [s]	14.71	20.48	17.79	21.18
I_b,int, Bicycle LOS Score for Intersection	2.152	2.193	2.111	2.225
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: State Street / Devonshire Avenue

Control Type:	Signalized	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.373

Intersection Setup

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Base Volume Input [veh/h]	19	488	17	52	497	65	71	101	48	12	46	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	488	17	52	497	65	71	101	48	12	46	30
Peak Hour Factor	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	143	5	15	145	19	21	29	14	4	13	9
Total Analysis Volume [veh/h]	22	570	20	61	581	76	83	118	56	14	54	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	10	31	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	21	0	0	23	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	2	41	41	4	42	42	16	9	16	7	7
g / C, Green / Cycle	0.03	0.54	0.54	0.05	0.57	0.57	0.21	0.13	0.21	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.16	0.16	0.03	0.16	0.05	0.05	0.10	0.01	0.03	0.02
s, saturation flow rate [veh/h]	1810	1900	1877	1810	3618	1615	1571	1798	1390	1900	1615
c, Capacity [veh/h]	48	1025	1013	90	2037	909	446	227	327	168	143
d1, Uniform Delay [s]	36.11	9.45	9.45	35.16	8.56	7.54	24.55	31.81	23.89	32.18	31.96
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.80	0.71	0.72	8.60	0.35	0.18	0.20	5.36	0.05	1.09	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.29	0.29	0.68	0.29	0.08	0.19	0.77	0.04	0.32	0.25
d, Delay for Lane Group [s/veh]	42.91	10.16	10.17	43.76	8.91	7.72	24.75	37.16	23.95	33.28	32.84
Lane Group LOS	D	B	B	D	A	A	C	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.47	2.39	2.37	1.26	2.08	0.50	1.21	3.30	0.20	0.95	0.61
50th-Percentile Queue Length [ft/ln]	11.72	59.75	59.22	31.43	52.12	12.58	30.21	82.46	4.92	23.73	15.33
95th-Percentile Queue Length [veh/ln]	0.84	4.30	4.26	2.26	3.75	0.91	2.18	5.94	0.35	1.71	1.10
95th-Percentile Queue Length [ft/ln]	21.09	107.56	106.60	56.57	93.82	22.64	54.38	148.43	8.86	42.71	27.59

Movement, Approach, & Intersection Results

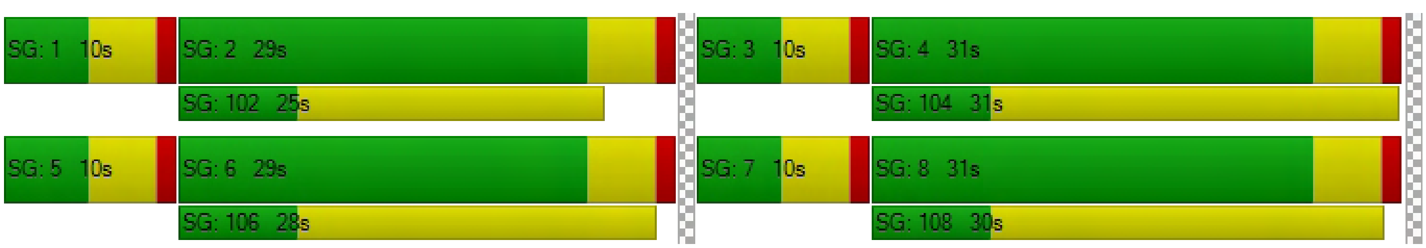
d_M, Delay for Movement [s/veh]	42.91	10.17	10.17	43.76	8.91	7.72	24.75	37.16	37.16	23.95	33.28	32.84
Movement LOS	D	B	B	D	A	A	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	11.34			11.75			33.15			31.86		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	16.08											
Intersection LOS	B											
Intersection V/C	0.373											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	27.31	27.31	27.31	27.31
I_p,int, Pedestrian LOS Score for Intersection	2.719	2.858	2.063	2.195
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	640	640	693	693
d_b, Bicycle Delay [s]	17.34	17.34	16.01	16.01
I_b,int, Bicycle LOS Score for Intersection	2.065	2.152	1.984	1.730
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	101	18	28	81	24	26	199	10	13	221	13
Total Analysis Volume [veh/h]	41	405	71	111	324	97	102	798	39	51	884	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	16	34	0	14	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	29	29	29	29	29	29	5	23	23	3	21	21
g / C, Green / Cycle	0.42	0.42	0.42	0.42	0.42	0.42	0.07	0.32	0.32	0.05	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.13	0.13	0.12	0.17	0.06	0.06	0.22	0.22	0.03	0.25	0.25
s, saturation flow rate [veh/h]	1073	1900	1803	933	1900	1615	1810	1900	1869	1810	1900	1862
c, Capacity [veh/h]	387	793	752	382	793	674	136	612	602	85	559	548
d1, Uniform Delay [s]	19.67	13.66	13.68	19.52	14.36	12.68	31.80	20.70	20.70	32.79	23.27	23.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.55	1.00	1.07	1.92	1.56	0.45	8.11	1.39	1.42	6.75	3.66	3.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.11	0.31	0.31	0.29	0.41	0.14	0.75	0.69	0.69	0.60	0.85	0.85
d, Delay for Lane Group [s/veh]	20.22	14.66	14.75	21.44	15.92	13.12	39.91	22.10	22.12	39.54	26.93	27.00
Lane Group LOS	C	B	B	C	B	B	D	C	C	D	C	C
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.53	2.44	2.36	1.50	3.46	0.91	1.92	5.71	5.62	0.97	7.27	7.14
50th-Percentile Queue Length [ft/ln]	13.14	61.11	59.05	37.45	86.58	22.70	47.93	142.71	140.48	24.24	181.76	178.43
95th-Percentile Queue Length [veh/ln]	0.95	4.40	4.25	2.70	6.23	1.63	3.45	9.63	9.51	1.75	11.69	11.52
95th-Percentile Queue Length [ft/ln]	23.64	110.00	106.29	67.41	155.85	40.87	86.28	240.66	237.67	43.64	292.31	287.97

Movement, Approach, & Intersection Results

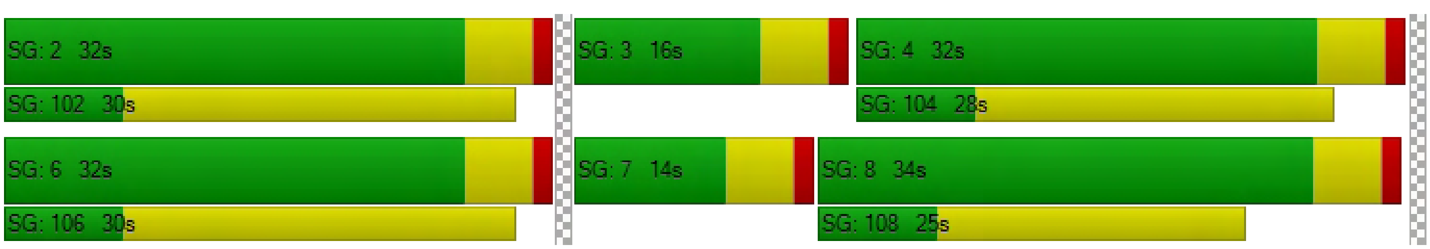
d_M, Delay for Movement [s/veh]	20.22	14.70	14.75	21.44	15.92	13.12	39.91	22.11	22.12	39.54	26.96	27.00
Movement LOS	C	B	B	C	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	15.14			16.57			24.04			27.61		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	22.35											
Intersection LOS	C											
Intersection V/C	0.574											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.420	2.676	2.790	2.892
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	771	829	771
d_b, Bicycle Delay [s]	13.21	13.21	12.01	13.21
I_b,int, Bicycle LOS Score for Intersection	1.986	2.437	2.334	2.375
Bicycle LOS	A	B	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



S2A Modular Manufacturing

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Report File: G:\...\PME.pdf

Scenario 1 Existing

5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.666	27.1	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.034	30.4	D
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.468	11.0	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.755	41.1	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	NB Left	0.398	16.4	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Right	0.662	29.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: State Street / Esplanade Avenue

Control Type:	Signalized	Delay (sec / veh):	27.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.666

Intersection Setup

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Base Volume Input [veh/h]	90	571	166	214	636	93	110	498	84	122	498	145
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	571	166	214	636	93	110	498	84	122	498	145
Peak Hour Factor	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	161	47	60	180	26	31	141	24	34	141	41
Total Analysis Volume [veh/h]	102	645	187	242	718	105	124	562	95	138	562	164
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	12	30	0	11	32	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	22	0	0	23	0	0	23	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	6	34	34	46	35	35	29	18	18	29	18	18
g / C, Green / Cycle	0.07	0.40	0.40	0.54	0.41	0.41	0.34	0.21	0.21	0.34	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.06	0.23	0.23	0.26	0.22	0.22	0.11	0.18	0.18	0.12	0.16	0.10
s, saturation flow rate [veh/h]	1810	1900	1755	920	1900	1816	1151	1900	1806	1107	3618	1615
c, Capacity [veh/h]	133	757	699	502	775	741	395	403	383	371	775	346
d1, Uniform Delay [s]	38.76	19.97	19.97	12.59	19.18	19.18	20.85	32.13	32.15	21.46	31.15	29.28
k, delay calibration	0.11	0.50	0.50	0.25	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	8.87	3.12	3.37	1.64	2.72	2.84	0.45	4.58	4.86	0.62	1.31	1.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.77	0.57	0.57	0.48	0.54	0.54	0.31	0.83	0.84	0.37	0.73	0.47
d, Delay for Lane Group [s/veh]	47.63	23.09	23.34	14.23	21.89	22.02	21.30	36.72	37.01	22.08	32.46	30.29
Lane Group LOS	D	C	C	B	C	C	C	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.34	6.74	6.27	2.33	6.33	6.08	1.65	6.68	6.39	1.86	5.14	2.84
50th-Percentile Queue Length [ft/ln]	58.41	168.47	156.87	58.24	158.18	151.93	41.17	166.89	159.68	46.41	128.41	70.94
95th-Percentile Queue Length [veh/ln]	4.21	11.00	10.38	4.19	10.45	10.12	2.96	10.91	10.53	3.34	8.85	5.11
95th-Percentile Queue Length [ft/ln]	105.14	274.90	259.57	104.83	261.31	253.00	74.10	272.83	263.30	83.54	221.33	127.70

Movement, Approach, & Intersection Results

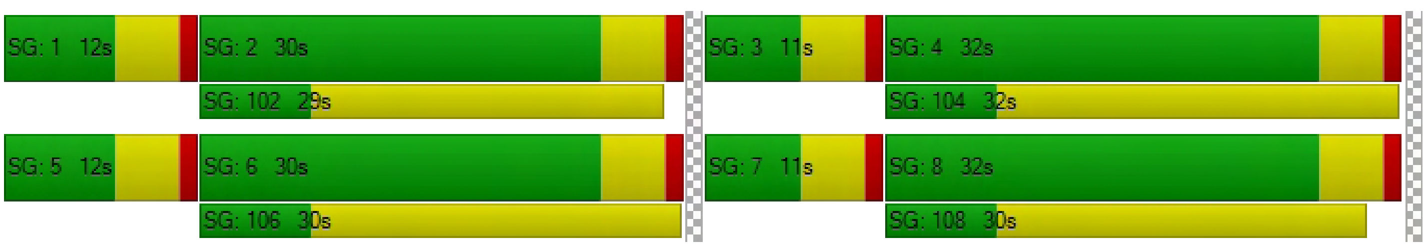
d_M, Delay for Movement [s/veh]	47.63	23.17	23.34	14.23	21.95	22.02	21.30	36.83	37.01	22.08	32.46	30.29
Movement LOS	D	C	C	B	C	C	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	25.88			20.20			34.39			30.39		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.11											
Intersection LOS	C											
Intersection V/C	0.666											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.833	2.858	2.750	3.047
Crosswalk LOS	C	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	588	588	635	635
d_b, Bicycle Delay [s]	21.18	21.18	19.79	19.79
I_b,int, Bicycle LOS Score for Intersection	2.330	2.438	2.204	2.272
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	30.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.034

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	4	818	807	6	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	818	807	6	5	5
Peak Hour Factor	0.9153	0.9153	0.9153	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	223	220	2	1	1
Total Analysis Volume [veh/h]	4	894	882	7	5	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	9.70	0.00	0.00	0.00	30.43	12.05
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.00	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.39	0.00	0.00	0.00	3.37	3.37
d_A, Approach Delay [s/veh]	0.04		0.00		21.24	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 3: State Street / Fruitvale Avenue

Control Type:	Signalized	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Base Volume Input [veh/h]	50	741	23	14	764	44	45	0	49	43	27	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	741	23	14	764	44	45	0	49	43	27	26
Peak Hour Factor	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	211	7	4	218	13	13	0	14	12	8	7
Total Analysis Volume [veh/h]	57	844	26	16	870	50	51	0	56	49	31	30
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	30	0	10	28	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	23	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	45	45	1	43	43	9	9	9
g / C, Green / Cycle	0.05	0.64	0.64	0.02	0.61	0.61	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.03	0.23	0.23	0.01	0.24	0.24	0.11	0.05	0.02
s, saturation flow rate [veh/h]	1810	1900	1880	1810	1900	1864	957	1482	1615
c, Capacity [veh/h]	88	1212	1199	36	1157	1136	198	272	207
d1, Uniform Delay [s]	32.73	5.97	5.97	33.95	7.08	7.08	30.40	27.94	27.15
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.68	0.84	0.84	8.24	1.04	1.06	2.27	0.59	0.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.36	0.36	0.44	0.40	0.40	0.54	0.29	0.15
d, Delay for Lane Group [s/veh]	40.42	6.80	6.81	42.19	8.12	8.14	32.67	28.53	27.46
Lane Group LOS	D	A	A	D	A	A	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.08	2.40	2.37	0.34	2.97	2.92	1.80	1.19	0.43
50th-Percentile Queue Length [ft/ln]	27.04	59.90	59.34	8.42	74.14	72.89	44.91	29.71	10.85
95th-Percentile Queue Length [veh/ln]	1.95	4.31	4.27	0.61	5.34	5.25	3.23	2.14	0.78
95th-Percentile Queue Length [ft/ln]	48.67	107.81	106.82	15.16	133.45	131.20	80.85	53.47	19.54

Movement, Approach, & Intersection Results

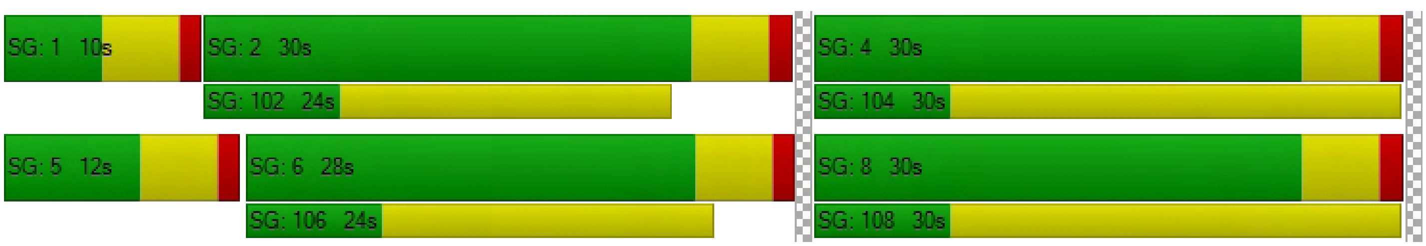
d_M, Delay for Movement [s/veh]	40.42	6.81	6.81	42.19	8.13	8.14	32.67	32.67	32.67	28.53	28.53	27.46
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	8.87			8.71			32.67			28.24		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	11.05											
Intersection LOS	B											
Intersection V/C	0.468											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.921	2.915	1.860	1.992
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	714	657	714	714
d_b, Bicycle Delay [s]	14.46	15.78	14.46	14.46
I_b,int, Bicycle LOS Score for Intersection	2.324	2.332	1.736	1.741
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	41.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	┐‖├			┐‖├			┼			┤├		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	29	612	76	127	694	98	63	248	33	52	222	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	612	76	127	694	98	63	248	33	52	222	112
Peak Hour Factor	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	169	21	35	191	27	17	68	9	14	61	31
Total Analysis Volume [veh/h]	32	674	84	140	764	108	69	273	36	57	245	123
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	30	0	15	35	0	0	35	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	36	36	10	42	42	25	20	20
g / C, Green / Cycle	0.03	0.32	0.32	0.09	0.38	0.38	0.22	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.20	0.20	0.08	0.23	0.23	0.20	0.16	0.08
s, saturation flow rate [veh/h]	1810	1900	1827	1810	1900	1819	1852	1882	1615
c, Capacity [veh/h]	53	611	588	166	730	698	415	340	292
d1, Uniform Delay [s]	52.80	31.78	31.79	49.25	27.30	27.30	41.63	44.02	40.00
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.18	0.14	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.42	4.90	5.11	11.07	3.79	3.96	12.12	9.55	0.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.63	0.63	0.85	0.61	0.61	0.91	0.89	0.42
d, Delay for Lane Group [s/veh]	63.23	36.68	36.90	60.33	31.08	31.25	53.75	53.57	40.97
Lane Group LOS	E	D	D	E	C	C	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.03	9.47	9.16	4.22	9.77	9.38	11.08	8.72	2.97
50th-Percentile Queue Length [ft/ln]	25.68	236.75	228.88	105.47	244.19	234.57	277.02	217.89	74.25
95th-Percentile Queue Length [veh/ln]	1.85	14.52	14.12	7.59	14.89	14.41	16.54	13.56	5.35
95th-Percentile Queue Length [ft/ln]	46.23	362.93	352.94	189.68	372.32	360.16	413.49	338.93	133.65

Movement, Approach, & Intersection Results

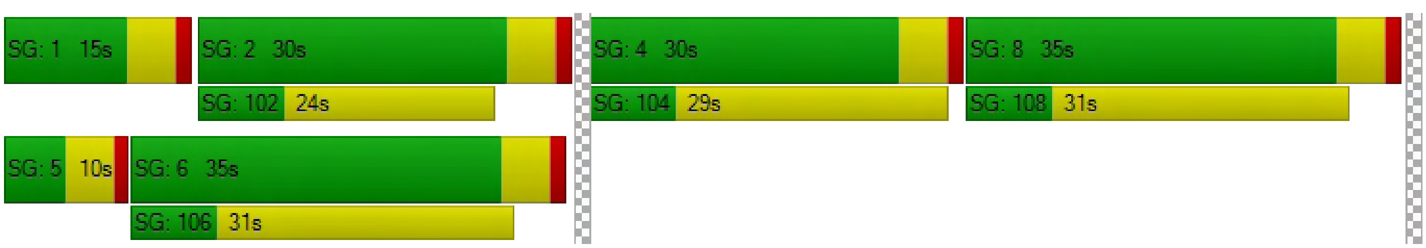
d_M, Delay for Movement [s/veh]	63.23	36.77	36.90	60.33	31.15	31.25	53.75	53.75	53.75	53.57	53.57	40.97
Movement LOS	E	D	D	E	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	37.86			35.20			53.75			49.92		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	41.10											
Intersection LOS	D											
Intersection V/C	0.755											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	44.55	44.55
I_p,int, Pedestrian LOS Score for Intersection	2.730	2.869	2.220	2.349
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	545	545	455
d_b, Bicycle Delay [s]	32.84	29.09	29.09	32.84
I_b,int, Bicycle LOS Score for Intersection	2.211	2.395	2.183	2.261
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: State Street / Devonshire Avenue

Control Type:	Signalized	Delay (sec / veh):	16.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Base Volume Input [veh/h]	47	620	7	40	655	71	83	100	62	5	74	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	620	7	40	655	71	83	100	62	5	74	34
Peak Hour Factor	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	164	2	11	173	19	22	26	16	1	20	9
Total Analysis Volume [veh/h]	50	656	7	42	693	75	88	106	66	5	78	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	25	0	14	28	0	10	31	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	21	0	0	23	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	3	46	46	3	46	46	16	10	16	6	6
g / C, Green / Cycle	0.04	0.58	0.58	0.04	0.58	0.58	0.19	0.12	0.19	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.03	0.17	0.17	0.02	0.19	0.05	0.06	0.10	0.00	0.04	0.02
s, saturation flow rate [veh/h]	1810	1900	1893	1810	3618	1615	1571	1780	1367	1900	1615
c, Capacity [veh/h]	79	1099	1095	72	2078	928	394	222	291	142	120
d1, Uniform Delay [s]	37.74	8.64	8.64	37.88	8.99	7.62	27.37	34.03	26.39	35.84	35.15
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.17	0.71	0.71	7.41	0.43	0.17	0.28	5.72	0.02	3.32	1.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.30	0.30	0.59	0.33	0.08	0.22	0.78	0.02	0.55	0.30
d, Delay for Lane Group [s/veh]	45.91	9.35	9.35	45.29	9.42	7.79	27.65	39.75	26.41	39.16	36.52
Lane Group LOS	D	A	A	D	A	A	C	D	C	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.10	2.63	2.62	0.92	2.74	0.52	1.42	3.52	0.08	1.57	0.70
50th-Percentile Queue Length [ft/ln]	27.56	65.79	65.59	23.09	68.39	13.08	35.60	87.89	1.93	39.32	17.47
95th-Percentile Queue Length [veh/ln]	1.98	4.74	4.72	1.66	4.92	0.94	2.56	6.33	0.14	2.83	1.26
95th-Percentile Queue Length [ft/ln]	49.61	118.42	118.05	41.57	123.11	23.54	64.08	158.20	3.48	70.78	31.45

Movement, Approach, & Intersection Results

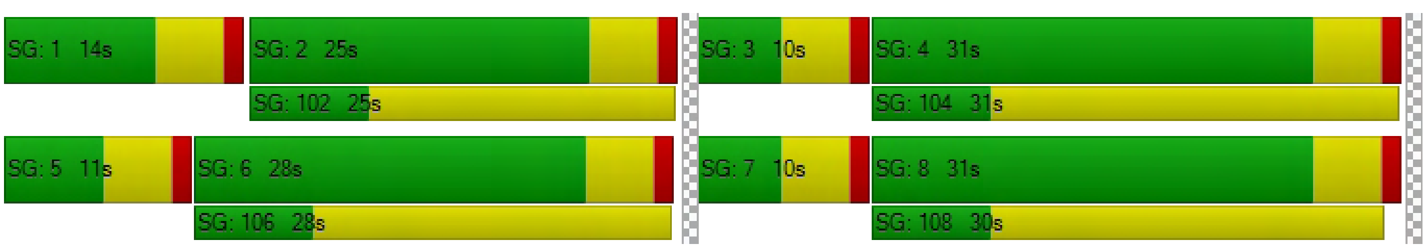
d_M, Delay for Movement [s/veh]	45.91	9.35	9.35	45.29	9.42	7.79	27.65	39.75	39.75	26.41	39.16	36.52
Movement LOS	D	A	A	D	A	A	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	11.92			11.13			35.65			37.82		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.45											
Intersection LOS	B											
Intersection V/C	0.398											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.767	2.895	2.084	2.191
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	575	650	650
d_b, Bicycle Delay [s]	22.50	20.31	18.23	18.23
I_b,int, Bicycle LOS Score for Intersection	2.148	2.228	1.989	1.756
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.662

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Peak Hour Factor	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	96	20	40	90	47	37	293	16	26	280	22
Total Analysis Volume [veh/h]	54	383	81	160	361	189	147	1170	63	104	1119	89
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	12	38	0	10	36	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	31	31	31	31	31	31	39	30	30	39	29	29
g / C, Green / Cycle	0.39	0.39	0.39	0.39	0.39	0.39	0.49	0.37	0.37	0.49	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.13	0.17	0.19	0.12	0.19	0.33	0.33	0.14	0.32	0.32
s, saturation flow rate [veh/h]	1037	1900	1787	943	1900	1615	763	1900	1866	720	1900	1851
c, Capacity [veh/h]	321	734	691	352	734	624	361	701	689	343	678	661
d1, Uniform Delay [s]	25.50	17.22	17.25	25.17	18.60	17.06	16.62	23.66	23.70	16.20	24.41	24.44
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.28	0.28	0.11	0.29	0.29
I, Upstream Filtering 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
d2, Incremental Delay [s]	1.13	1.17	1.27	4.20	2.35	1.25	0.74	9.39	9.79	0.49	11.11	11.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.17	0.32	0.33	0.46	0.49	0.30	0.41	0.89	0.89	0.30	0.90	0.90
d, Delay for Lane Group [s/veh]	26.63	18.39	18.52	29.37	20.95	18.31	17.36	33.05	33.48	16.69	35.52	36.10
Lane Group LOS	C	B	B	C	C	B	B	C	C	B	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.89	3.03	2.91	2.86	5.07	2.42	1.40	11.89	11.80	0.96	12.16	11.99
50th-Percentile Queue Length [ft/ln]	22.37	75.87	72.82	71.56	126.71	60.52	34.89	297.35	295.10	23.96	303.89	299.75
95th-Percentile Queue Length [veh/ln]	1.61	5.46	5.24	5.15	8.76	4.36	2.51	17.55	17.44	1.73	17.87	17.67
95th-Percentile Queue Length [ft/ln]	40.26	136.56	131.08	128.80	219.02	108.93	62.80	438.75	435.96	43.13	446.83	441.72

Movement, Approach, & Intersection Results

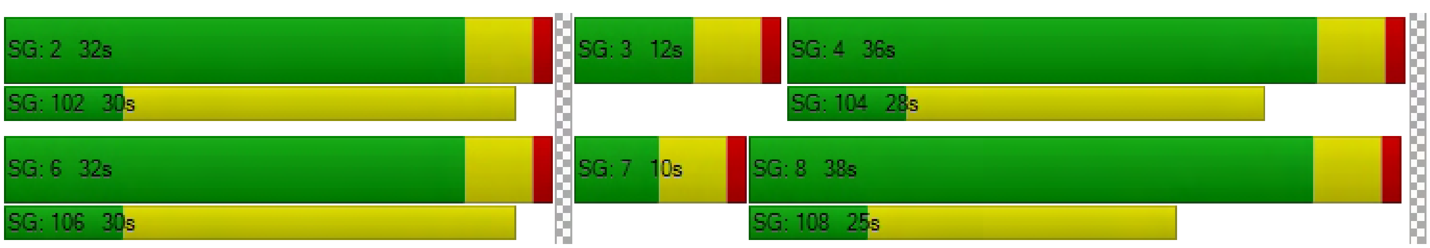
d_M, Delay for Movement [s/veh]	26.63	18.44	18.52	29.37	20.95	18.31	17.36	33.25	33.48	16.69	35.79	36.10
Movement LOS	C	B	B	C	C	B	B	C	C	B	D	D
d_A, Approach Delay [s/veh]	19.30			22.14			31.57			34.29		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	29.15											
Intersection LOS	C											
Intersection V/C	0.662											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.523	2.814	2.994	3.140
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	675	675	825	775
d_b, Bicycle Delay [s]	17.56	17.56	13.81	15.01
I_b,int, Bicycle LOS Score for Intersection	1.987	2.731	2.698	2.642
Bicycle LOS	A	B	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



EXISTING PLUS PROJECT

S2A Modular Manufacturing

Vistro File: G:\...\AM.vistro
Report File: G:\...\AMEp.pdf

Scenario 2 Existing Plus Project
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.529	24.3	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.336	49.1	E
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.489	12.2	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.697	36.9	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	SB Left	0.393	16.5	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Left	0.587	25.9	C
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	NB Thru	0.000	10.0	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.017	9.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: State Street / Esplanade Avenue

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.529

Intersection Setup

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Base Volume Input [veh/h]	41	503	78	170	567	93	65	347	66	97	427	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	10	6	0	35	0	0	0	33	22	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	513	84	170	602	93	65	347	99	119	427	160
Peak Hour Factor	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	140	23	47	165	25	18	95	27	33	117	44
Total Analysis Volume [veh/h]	58	561	92	186	659	102	71	380	108	130	467	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	13	30	0	10	32	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	22	0	0	23	0	0	23	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	4	40	40	51	42	42	24	14	14	24	15	15
g / C, Green / Cycle	0.04	0.47	0.47	0.60	0.49	0.49	0.28	0.17	0.17	0.28	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.18	0.18	0.19	0.20	0.21	0.06	0.13	0.13	0.11	0.13	0.11
s, saturation flow rate [veh/h]	1810	1900	1808	973	1900	1812	1196	1900	1758	1217	3618	1615
c, Capacity [veh/h]	81	889	846	614	939	896	354	317	293	355	643	287
d1, Uniform Delay [s]	40.13	14.62	14.63	8.47	13.69	13.69	23.33	34.05	34.12	24.26	33.04	32.27
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	11.28	1.21	1.28	0.27	1.35	1.42	0.28	4.52	5.17	0.63	1.59	2.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.72	0.38	0.38	0.30	0.41	0.41	0.20	0.79	0.81	0.37	0.73	0.61
d, Delay for Lane Group [s/veh]	51.41	15.84	15.92	8.74	15.05	15.11	23.60	38.57	39.29	24.89	34.63	34.37
Lane Group LOS	D	B	B	A	B	B	C	D	D	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.41	4.03	3.87	1.32	4.56	4.37	1.01	5.08	4.82	1.93	4.40	3.28
50th-Percentile Queue Length [ft/ln]	35.15	100.83	96.73	33.10	114.08	109.22	25.33	126.96	120.53	48.27	109.91	82.03
95th-Percentile Queue Length [veh/ln]	2.53	7.26	6.96	2.38	8.07	7.80	1.82	8.77	8.42	3.48	7.83	5.91
95th-Percentile Queue Length [ft/ln]	63.27	181.50	174.12	59.58	201.67	194.92	45.59	219.36	210.56	86.88	195.87	147.66

Movement, Approach, & Intersection Results

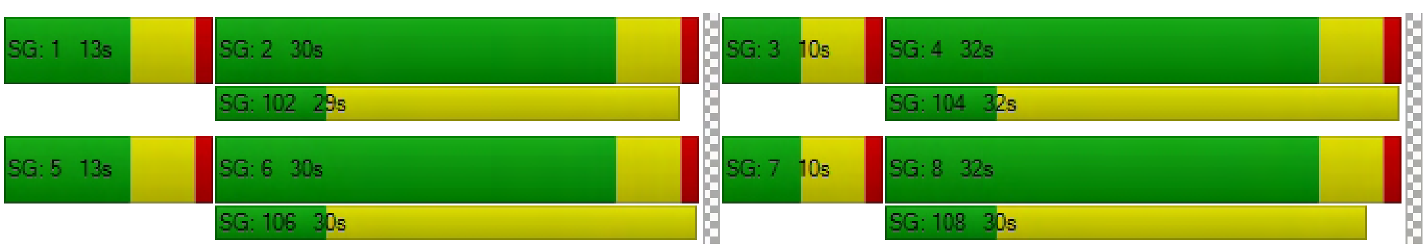
d_M, Delay for Movement [s/veh]	51.41	15.87	15.92	8.74	15.07	15.11	23.60	38.81	39.29	24.89	34.63	34.37
Movement LOS	D	B	B	A	B	B	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	18.77			13.83			36.97			32.93		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	24.27											
Intersection LOS	C											
Intersection V/C	0.529											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.750	2.773	2.643	2.928
Crosswalk LOS	B	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	588	588	635	635
d_b, Bicycle Delay [s]	21.18	21.18	19.79	19.79
I_b,int, Bicycle LOS Score for Intersection	2.146	2.341	2.021	2.197
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	49.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.336

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	0	629	674	1	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	96	0	0	90	28	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	629	674	91	33	32
Peak Hour Factor	0.8702	0.8702	0.8702	0.8702	0.8702	0.8702
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	181	194	26	9	9
Total Analysis Volume [veh/h]	110	723	775	105	38	37
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.01	0.01	0.00	0.34	0.06
d_M, Delay for Movement [s/veh]	10.40	0.00	0.00	0.00	49.06	23.59
Movement LOS	B	A	A	A	E	C
95th-Percentile Queue Length [veh/ln]	0.49	0.00	0.00	0.00	1.78	1.78
95th-Percentile Queue Length [ft/ln]	12.30	0.00	0.00	0.00	44.45	44.45
d_A, Approach Delay [s/veh]	1.37		0.00		36.49	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	2.17					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 3: State Street / Fruitvale Avenue

Control Type:	Signalized	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.489

Intersection Setup

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Base Volume Input [veh/h]	31	604	115	65	571	41	35	37	54	23	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	92	0	0	26	1	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	696	115	65	597	42	39	37	54	23	3	12
Peak Hour Factor	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	203	33	19	174	12	11	11	16	7	1	3
Total Analysis Volume [veh/h]	36	810	134	76	695	49	45	43	63	27	3	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	28	0	12	27	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	23	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	42	42	4	43	43	9	9	9
g / C, Green / Cycle	0.04	0.60	0.60	0.06	0.62	0.62	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.02	0.25	0.25	0.04	0.20	0.20	0.11	0.03	0.01
s, saturation flow rate [veh/h]	1810	1900	1807	1810	1900	1856	1395	1038	1615
c, Capacity [veh/h]	66	1135	1080	101	1172	1145	252	235	214
d1, Uniform Delay [s]	33.17	7.61	7.61	32.60	6.42	6.42	29.78	26.99	26.57
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.87	1.17	1.23	10.89	0.72	0.74	2.28	0.24	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.43	0.43	0.76	0.32	0.32	0.60	0.13	0.07
d, Delay for Lane Group [s/veh]	40.04	8.78	8.84	43.49	7.14	7.16	32.07	27.23	26.69
Lane Group LOS	D	A	A	D	A	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.69	3.29	3.15	1.50	2.17	2.13	2.47	0.43	0.20
50th-Percentile Queue Length [ft/ln]	17.29	82.34	78.76	37.42	54.35	53.28	61.75	10.80	4.96
95th-Percentile Queue Length [veh/ln]	1.25	5.93	5.67	2.69	3.91	3.84	4.45	0.78	0.36
95th-Percentile Queue Length [ft/ln]	31.13	148.21	141.77	67.36	97.83	95.90	111.15	19.43	8.93

Movement, Approach, & Intersection Results

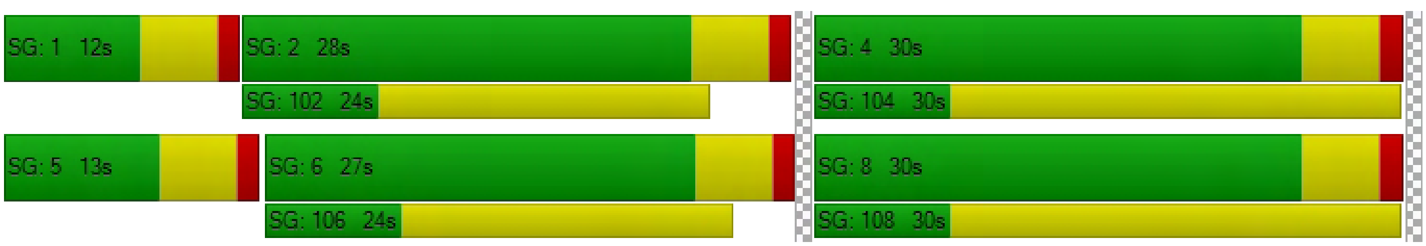
d_M, Delay for Movement [s/veh]	40.04	8.81	8.84	43.49	7.15	7.16	32.07	32.07	32.07	27.23	27.23	26.69
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.96			10.52			32.07			27.06		
Approach LOS	A			B			C			C		
d_I, Intersection Delay [s/veh]	12.24											
Intersection LOS	B											
Intersection V/C	0.489											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.860	2.869	1.856	2.055
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	657	629	714	714
d_b, Bicycle Delay [s]	15.78	16.46	14.46	14.46
I_b,int, Bicycle LOS Score for Intersection	2.368	2.236	1.809	1.632
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	36.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.697

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	24	531	63	110	516	34	69	176	43	22	187	138
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	74	0	3	21	2	7	0	0	0	0	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	605	63	113	537	36	76	176	43	22	187	149
Peak Hour Factor	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	176	18	33	156	10	22	51	12	6	54	43
Total Analysis Volume [veh/h]	28	703	73	131	624	42	88	204	50	26	217	173
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	30	0	15	30	0	0	35	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	41	41	10	48	48	23	17	17
g / C, Green / Cycle	0.03	0.37	0.37	0.09	0.43	0.43	0.21	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.02	0.21	0.21	0.07	0.18	0.18	0.19	0.13	0.11
s, saturation flow rate [veh/h]	1810	1900	1838	1810	1900	1858	1829	1890	1615
c, Capacity [veh/h]	49	705	682	160	821	803	380	286	244
d1, Uniform Delay [s]	52.92	27.50	27.51	49.31	21.57	21.57	42.50	45.52	44.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.93	3.19	3.31	9.70	1.51	1.55	7.83	7.01	3.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.56	0.56	0.82	0.41	0.41	0.90	0.85	0.71
d, Delay for Lane Group [s/veh]	62.85	30.69	30.81	59.01	23.08	23.12	50.34	52.54	48.19
Lane Group LOS	E	C	C	E	C	C	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.90	8.74	8.49	3.90	6.07	5.95	9.61	6.87	4.64
50th-Percentile Queue Length [ft/ln]	22.50	218.61	212.25	97.43	151.66	148.65	240.37	171.63	115.96
95th-Percentile Queue Length [veh/ln]	1.62	13.59	13.27	7.02	10.11	9.94	14.70	11.16	8.17
95th-Percentile Queue Length [ft/ln]	40.50	339.85	331.72	175.38	252.65	248.62	367.51	279.05	204.27

Movement, Approach, & Intersection Results

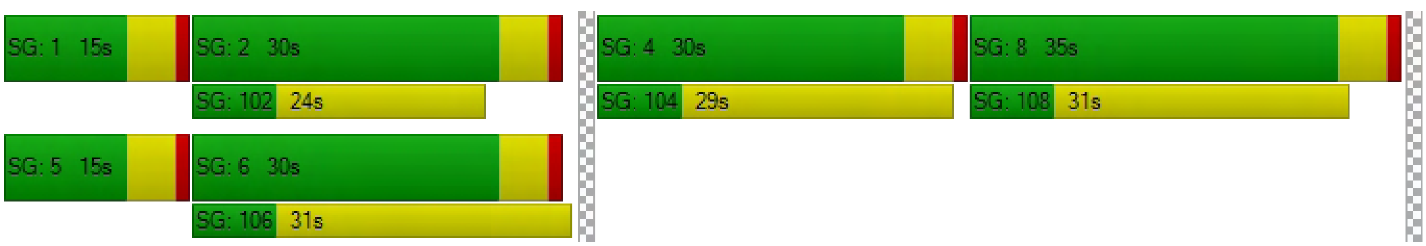
d_M, Delay for Movement [s/veh]	62.85	30.75	30.81	59.01	23.10	23.12	50.34	50.34	50.34	52.54	52.54	48.19
Movement LOS	E	C	C	E	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	31.87			29.00			50.34			50.73		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	36.91											
Intersection LOS	D											
Intersection V/C	0.697											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	44.55	44.55
I_p,int, Pedestrian LOS Score for Intersection	2.707	2.844	2.133	2.307
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	455	545	455
d_b, Bicycle Delay [s]	32.84	32.84	29.09	32.84
I_b,int, Bicycle LOS Score for Intersection	2.223	2.217	2.124	2.246
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 5: State Street / Devonshire Avenue

Control Type:	Signalized	Delay (sec / veh):	16.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

Intersection Setup

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Base Volume Input [veh/h]	19	488	17	52	497	65	71	101	48	12	46	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	66	0	1	19	1	4	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	554	17	53	516	66	75	101	48	12	46	34
Peak Hour Factor	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	162	5	15	151	19	22	29	14	4	13	10
Total Analysis Volume [veh/h]	22	647	20	62	603	77	88	118	56	14	54	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	10	31	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	21	0	0	23	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	2	45	45	4	47	47	16	10	16	7	7
g / C, Green / Cycle	0.03	0.56	0.56	0.05	0.58	0.58	0.20	0.12	0.20	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.01	0.18	0.18	0.03	0.17	0.05	0.06	0.10	0.01	0.03	0.02
s, saturation flow rate [veh/h]	1810	1900	1880	1810	3618	1615	1575	1798	1387	1900	1615
c, Capacity [veh/h]	47	1063	1051	87	2104	939	427	224	309	162	138
d1, Uniform Delay [s]	38.54	9.46	9.46	37.62	8.42	7.37	26.64	34.02	25.85	34.55	34.42
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.18	0.78	0.79	10.06	0.34	0.17	0.24	5.66	0.06	1.19	1.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.32	0.32	0.71	0.29	0.08	0.21	0.78	0.05	0.33	0.29
d, Delay for Lane Group [s/veh]	45.72	10.24	10.25	47.69	8.77	7.54	26.88	39.68	25.91	35.74	35.57
Lane Group LOS	D	B	B	D	A	A	C	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.50	2.85	2.82	1.39	2.24	0.52	1.40	3.55	0.21	1.03	0.76
50th-Percentile Queue Length [ft/ln]	12.55	71.13	70.52	34.77	56.12	13.10	34.99	88.82	5.36	25.65	19.04
95th-Percentile Queue Length [veh/ln]	0.90	5.12	5.08	2.50	4.04	0.94	2.52	6.39	0.39	1.85	1.37
95th-Percentile Queue Length [ft/ln]	22.59	128.04	126.94	62.59	101.01	23.57	62.99	159.87	9.65	46.17	34.27

Movement, Approach, & Intersection Results

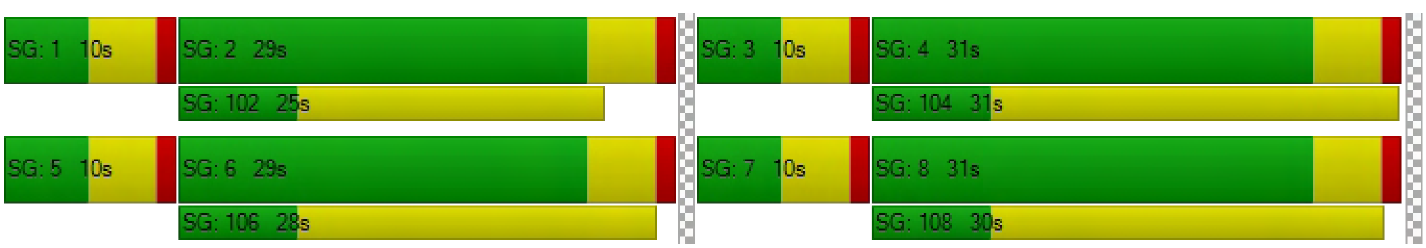
d_M, Delay for Movement [s/veh]	45.72	10.25	10.25	47.69	8.77	7.54	26.88	39.68	39.68	25.91	35.74	35.57
Movement LOS	D	B	B	D	A	A	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	11.38			11.89			35.38			34.40		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	16.46											
Intersection LOS	B											
Intersection V/C	0.393											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.744	2.883	2.068	2.200
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	650	650
d_b, Bicycle Delay [s]	19.60	19.60	18.23	18.23
I_b,int, Bicycle LOS Score for Intersection	2.128	2.172	1.992	1.738
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	25.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.587

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	35	0	3	10	6	21	0	0	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	387	62	100	292	90	110	694	34	44	769	56
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	111	18	29	84	26	32	199	10	13	221	16
Total Analysis Volume [veh/h]	41	445	71	115	336	103	126	798	39	51	884	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	16	34	0	14	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	35	35	35	35	35	35	7	27	27	3	23	23
g / C, Green / Cycle	0.43	0.43	0.43	0.43	0.43	0.43	0.09	0.33	0.33	0.04	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.14	0.14	0.13	0.18	0.06	0.07	0.22	0.22	0.03	0.25	0.25
s, saturation flow rate [veh/h]	1061	1900	1810	899	1900	1615	1810	1900	1869	1810	1900	1855
c, Capacity [veh/h]	395	825	786	375	825	701	162	636	626	79	549	536
d1, Uniform Delay [s]	21.14	14.88	14.90	21.39	15.57	13.69	35.68	22.79	22.79	37.68	27.09	27.09
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.19	0.19
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.53	1.02	1.08	2.10	1.49	0.44	7.79	1.20	1.22	8.41	7.45	7.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.10	0.32	0.32	0.31	0.41	0.15	0.78	0.66	0.66	0.64	0.87	0.87
d, Delay for Lane Group [s/veh]	21.67	15.90	15.98	23.49	17.06	14.13	43.47	23.98	24.00	46.08	34.54	34.70
Lane Group LOS	C	B	B	C	B	B	D	C	C	D	C	C
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.59	3.05	2.95	1.78	4.11	1.10	2.67	6.55	6.44	1.14	9.29	9.09
50th-Percentile Queue Length [ft/ln]	14.77	76.32	73.74	44.47	102.74	27.54	66.81	163.68	161.09	28.46	232.15	227.29
95th-Percentile Queue Length [veh/ln]	1.06	5.49	5.31	3.20	7.40	1.98	4.81	10.74	10.61	2.05	14.28	14.04
95th-Percentile Queue Length [ft/ln]	26.58	137.37	132.74	80.05	184.94	49.57	120.27	268.59	265.17	51.23	357.09	350.92

Movement, Approach, & Intersection Results

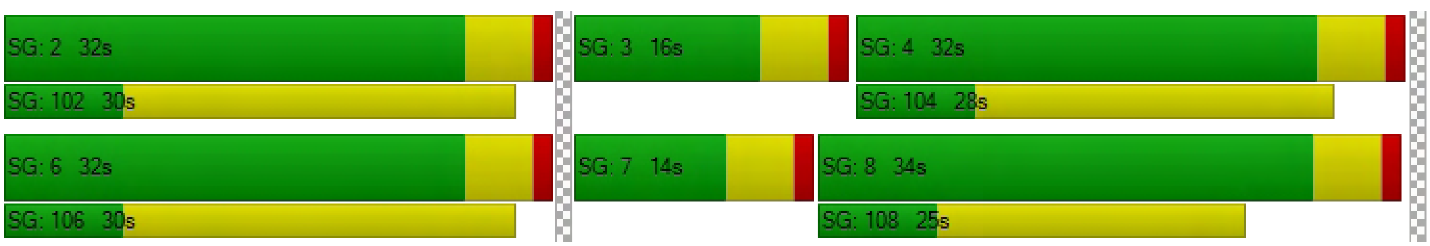
d_M, Delay for Movement [s/veh]	21.67	15.93	15.98	23.49	17.06	14.13	43.47	23.99	24.00	46.08	34.61	34.70
Movement LOS	C	B	B	C	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	16.36			17.85			26.54			35.20		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	25.95											
Intersection LOS	C											
Intersection V/C	0.587											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.444	2.704	2.804	2.908
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	675	675	725	675
d_b, Bicycle Delay [s]	17.56	17.56	16.26	17.56
I_b,int, Bicycle LOS Score for Intersection	2.019	2.474	2.354	2.384
Bicycle LOS	B	B	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Project West Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	10	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	43	0	0	0	0	0	0	0	148
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	43	0	0	0	10	0	0	1	148
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	12	0	0	0	3	0	0	0	40
Total Analysis Volume [veh/h]	0	0	0	47	0	0	0	11	0	0	1	161
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.02	9.97	8.35	9.24	9.71	8.88	7.52	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.17	0.17	0.17	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	4.14	4.14	4.14	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.11			9.24			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.97											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 8: Project East Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Base Volume Input [veh/h]	0	0	0	10	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	43	148	38
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	0	53	149	38
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	14	40	10
Total Analysis Volume [veh/h]	13	0	0	58	162	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.87	9.25	7.61	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.32	1.32	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.87		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.47					
Intersection LOS	A					

S2A Modular Manufacturing

Vistro File: G:\...\PM.vistro
Scenario 2 Existing Plus Project

Report File: G:\...\PMEp.pdf
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.694	28.0	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.707	95.3	F
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.500	11.2	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	SB Left	0.776	42.5	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	NB Left	0.414	16.5	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Right	0.670	31.4	C
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Thru	0.000	9.8	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.062	9.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: State Street / Esplanade Avenue

Control Type:	Signalized	Delay (sec / veh):	28.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.694

Intersection Setup

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Base Volume Input [veh/h]	90	571	166	214	636	93	110	498	84	122	498	145
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	25	19	0	11	0	0	0	12	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	118	596	185	214	647	93	110	498	96	131	498	145
Peak Hour Factor	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	168	52	60	183	26	31	141	27	37	141	41
Total Analysis Volume [veh/h]	133	673	209	242	730	105	124	562	108	148	562	164
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	12	30	0	11	32	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	22	0	0	23	0	0	23	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	7	34	34	46	34	34	29	18	18	29	19	19
g / C, Green / Cycle	0.08	0.40	0.40	0.54	0.40	0.40	0.35	0.22	0.22	0.35	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.07	0.24	0.24	0.27	0.22	0.22	0.11	0.18	0.18	0.13	0.16	0.10
s, saturation flow rate [veh/h]	1810	1900	1747	898	1900	1818	1147	1900	1795	1097	3618	1615
c, Capacity [veh/h]	151	749	689	482	749	717	399	411	388	370	790	353
d1, Uniform Delay [s]	38.65	20.61	20.61	13.24	20.15	20.16	20.60	31.97	31.98	21.44	30.81	28.97
k, delay calibration	0.11	0.50	0.50	0.26	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	15.18	3.73	4.05	1.95	3.13	3.27	0.44	4.60	4.91	0.70	1.20	0.95
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.88	0.61	0.61	0.50	0.57	0.57	0.31	0.84	0.84	0.40	0.71	0.46
d, Delay for Lane Group [s/veh]	53.83	24.34	24.66	15.19	23.28	23.43	21.04	36.57	36.88	22.14	32.01	29.92
Lane Group LOS	D	C	C	B	C	C	C	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.27	7.42	6.88	2.39	6.68	6.42	1.63	6.82	6.49	1.99	5.09	2.82
50th-Percentile Queue Length [ft/ln]	81.71	185.39	172.06	59.69	167.00	160.56	40.83	170.47	162.21	49.76	127.34	70.40
95th-Percentile Queue Length [veh/ln]	5.88	11.88	11.19	4.30	10.92	10.58	2.94	11.10	10.67	3.58	8.79	5.07
95th-Percentile Queue Length [ft/ln]	147.08	297.03	279.63	107.45	272.97	264.46	73.50	277.53	266.64	89.57	219.87	126.71

Movement, Approach, & Intersection Results

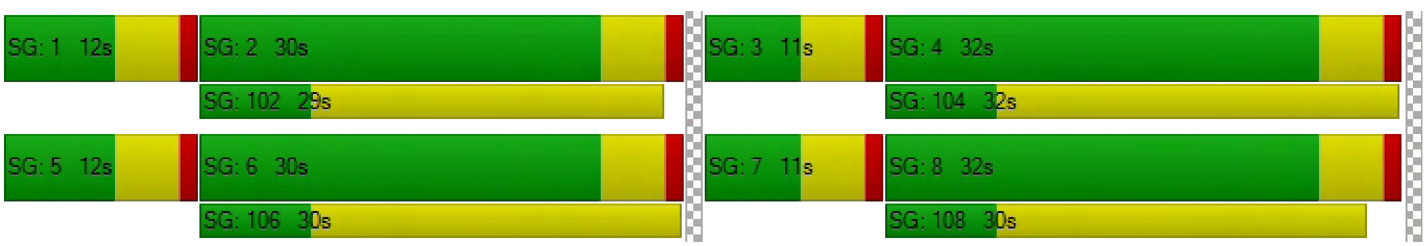
d_M, Delay for Movement [s/veh]	53.83	24.44	24.66	15.19	23.34	23.43	21.04	36.69	36.88	22.14	32.01	29.92
Movement LOS	D	C	C	B	C	C	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	28.34			21.52			34.27			29.95		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.01											
Intersection LOS	C											
Intersection V/C	0.694											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.867	2.869	2.763	3.054
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	588	588	635	635
d_b, Bicycle Delay [s]	21.18	21.18	19.79	19.79
I_b,int, Bicycle LOS Score for Intersection	2.397	2.448	2.215	2.281
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	95.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	4	818	807	6	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	0	32	72	79
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	818	807	38	77	84
Peak Hour Factor	0.9153	0.9153	0.9153	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	223	220	10	21	23
Total Analysis Volume [veh/h]	44	894	882	42	84	92
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.01	0.00	0.71	0.17
d_M, Delay for Movement [s/veh]	10.12	0.00	0.00	0.00	95.31	71.54
Movement LOS	B	A	A	A	F	F
95th-Percentile Queue Length [veh/ln]	0.19	0.00	0.00	0.00	6.68	6.68
95th-Percentile Queue Length [ft/ln]	4.68	0.00	0.00	0.00	167.11	167.11
d_A, Approach Delay [s/veh]	0.47		0.00		82.88	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	7.38					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: State Street / Fruitvale Avenue

Control Type:	Signalized	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.500

Intersection Setup

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Base Volume Input [veh/h]	50	741	23	14	764	44	45	0	49	43	27	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	34	0	0	75	4	2	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	775	23	14	839	48	47	0	49	43	27	26
Peak Hour Factor	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	221	7	4	239	14	13	0	14	12	8	7
Total Analysis Volume [veh/h]	57	883	26	16	956	55	54	0	56	49	31	30
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	30	0	10	28	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	23	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	44	44	1	42	42	9	9	9
g / C, Green / Cycle	0.05	0.63	0.63	0.02	0.61	0.61	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.03	0.24	0.24	0.01	0.27	0.27	0.11	0.05	0.02
s, saturation flow rate [veh/h]	1810	1900	1881	1810	1900	1864	966	1478	1615
c, Capacity [veh/h]	88	1206	1194	36	1151	1129	203	277	212
d1, Uniform Delay [s]	32.73	6.16	6.16	33.95	7.44	7.44	30.31	27.72	26.94
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.68	0.91	0.92	8.24	1.24	1.26	2.23	0.57	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.38	0.38	0.44	0.44	0.44	0.54	0.29	0.14
d, Delay for Lane Group [s/veh]	40.42	7.06	7.07	42.19	8.68	8.70	32.54	28.30	27.24
Lane Group LOS	D	A	A	D	A	A	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.08	2.58	2.56	0.34	3.43	3.37	1.84	1.18	0.43
50th-Percentile Queue Length [ft/ln]	27.04	64.51	63.94	8.42	85.69	84.26	46.03	29.55	10.79
95th-Percentile Queue Length [veh/ln]	1.95	4.64	4.60	0.61	6.17	6.07	3.31	2.13	0.78
95th-Percentile Queue Length [ft/ln]	48.67	116.12	115.09	15.16	154.25	151.67	82.86	53.19	19.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.42	7.07	7.07	42.19	8.69	8.70	32.54	32.54	32.54	28.30	28.30	27.24
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.04			9.21			32.54			28.01		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	11.23											
Intersection LOS	B											
Intersection V/C	0.500											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.948	2.948	1.865	1.992
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	714	657	714	714
d_b, Bicycle Delay [s]	14.46	15.78	14.46	14.46
I_b,int, Bicycle LOS Score for Intersection	2.357	2.407	1.741	1.741
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	42.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.776

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	29	612	76	127	694	98	63	248	33	52	222	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	0	13	53	9	4	0	0	0	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	636	76	140	747	107	67	248	33	52	222	118
Peak Hour Factor	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	175	21	39	206	29	18	68	9	14	61	32
Total Analysis Volume [veh/h]	32	701	84	154	823	118	74	273	36	57	245	130
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	30	0	15	35	0	0	35	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	35	35	10	42	42	25	20	20
g / C, Green / Cycle	0.03	0.32	0.32	0.09	0.38	0.38	0.23	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.21	0.21	0.09	0.25	0.25	0.21	0.16	0.08
s, saturation flow rate [veh/h]	1810	1900	1830	1810	1900	1818	1851	1882	1615
c, Capacity [veh/h]	53	606	584	166	724	693	420	340	292
d1, Uniform Delay [s]	52.80	32.34	32.34	49.67	28.23	28.24	41.48	44.01	40.18
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.19	0.14	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.42	5.55	5.77	19.32	4.76	4.98	12.47	9.52	1.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.66	0.66	0.93	0.66	0.66	0.91	0.89	0.45
d, Delay for Lane Group [s/veh]	63.23	37.89	38.12	68.99	32.99	33.21	53.95	53.52	41.24
Lane Group LOS	E	D	D	E	C	C	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.03	10.00	9.68	5.00	10.97	10.54	11.26	8.71	3.16
50th-Percentile Queue Length [ft/ln]	25.68	250.01	241.91	125.09	274.14	263.54	281.51	217.78	78.91
95th-Percentile Queue Length [veh/ln]	1.85	15.19	14.78	8.67	16.40	15.87	16.76	13.55	5.68
95th-Percentile Queue Length [ft/ln]	46.23	379.67	369.45	216.80	409.91	396.66	419.09	338.79	142.04

Movement, Approach, & Intersection Results

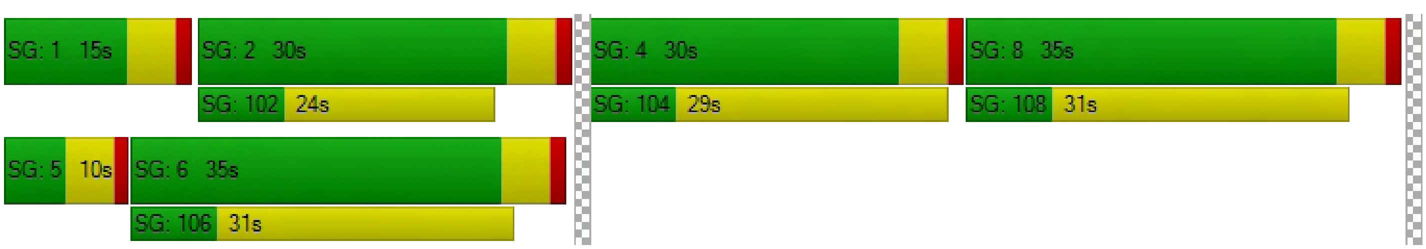
d_M, Delay for Movement [s/veh]	63.23	37.98	38.12	68.99	33.08	33.21	53.95	53.95	53.95	53.52	53.52	41.24
Movement LOS	E	D	D	E	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]		38.99			38.15			53.95			49.83	
Approach LOS		D			D			D			D	
d_I, Intersection Delay [s/veh]	42.47											
Intersection LOS	D											
Intersection V/C	0.776											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	44.55	44.55
I_p,int, Pedestrian LOS Score for Intersection	2.744	2.896	2.230	2.358
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	545	545	455
d_b, Bicycle Delay [s]	32.84	29.09	29.09	32.84
I_b,int, Bicycle LOS Score for Intersection	2.234	2.463	2.192	2.272
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: State Street / Devonshire Avenue

Control Type:	Signalized	Delay (sec / veh):	16.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.414

Intersection Setup

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Base Volume Input [veh/h]	47	620	7	40	655	71	83	100	62	5	74	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	4	45	4	2	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	640	7	44	700	75	85	100	62	5	74	36
Peak Hour Factor	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	169	2	12	185	20	22	26	16	1	20	10
Total Analysis Volume [veh/h]	50	677	7	47	740	79	90	106	66	5	78	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	25	0	14	28	0	10	31	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	21	0	0	23	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	3	46	46	3	46	46	16	10	16	6	6
g / C, Green / Cycle	0.04	0.58	0.58	0.04	0.58	0.58	0.19	0.12	0.19	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.03	0.18	0.18	0.03	0.20	0.05	0.06	0.10	0.00	0.04	0.02
s, saturation flow rate [veh/h]	1810	1900	1893	1810	3618	1615	1574	1780	1367	1900	1615
c, Capacity [veh/h]	79	1094	1090	76	2078	928	395	222	291	139	118
d1, Uniform Delay [s]	37.74	8.81	8.81	37.79	9.14	7.64	27.40	34.02	26.38	35.93	35.28
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.17	0.75	0.75	7.84	0.48	0.18	0.29	5.71	0.02	3.49	1.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.31	0.31	0.62	0.36	0.09	0.23	0.77	0.02	0.56	0.32
d, Delay for Lane Group [s/veh]	45.91	9.56	9.56	45.63	9.62	7.82	27.69	39.73	26.41	39.42	36.83
Lane Group LOS	D	A	A	D	A	A	C	D	C	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.10	2.76	2.75	1.03	2.97	0.55	1.46	3.51	0.08	1.58	0.74
50th-Percentile Queue Length [ft/ln]	27.56	69.02	68.81	25.86	74.30	13.81	36.45	87.87	1.93	39.49	18.55
95th-Percentile Queue Length [veh/ln]	1.98	4.97	4.95	1.86	5.35	0.99	2.62	6.33	0.14	2.84	1.34
95th-Percentile Queue Length [ft/ln]	49.61	124.23	123.85	46.55	133.74	24.87	65.61	158.17	3.48	71.08	33.38

Movement, Approach, & Intersection Results

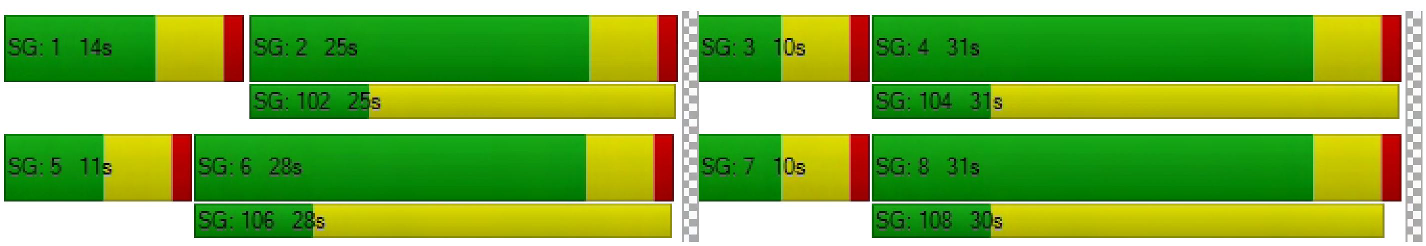
d_M, Delay for Movement [s/veh]	45.91	9.56	9.56	45.63	9.62	7.82	27.69	39.73	39.73	26.41	39.42	36.83
Movement LOS	D	A	A	D	A	A	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	12.04			11.41			35.59			38.07		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.46											
Intersection LOS	B											
Intersection V/C	0.414											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.782	2.910	2.086	2.193
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	575	650	650
d_b, Bicycle Delay [s]	22.50	20.31	18.23	18.23
I_b,int, Bicycle LOS Score for Intersection	2.165	2.274	1.992	1.759
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	31.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.670

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	0	7	25	13	6	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	361	74	153	355	186	140	1070	58	95	1023	84
Peak Hour Factor	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	99	20	42	97	51	38	293	16	26	280	23
Total Analysis Volume [veh/h]	54	395	81	167	388	203	153	1170	63	104	1119	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	37	0	0	37	0	12	43	0	10	41	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	37	37	37	37	37	37	43	34	34	43	32	32
g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.41	0.41	0.48	0.37	0.37	0.48	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.13	0.18	0.20	0.13	0.20	0.33	0.33	0.15	0.32	0.32
s, saturation flow rate [veh/h]	1011	1900	1790	933	1900	1615	759	1900	1866	700	1900	1850
c, Capacity [veh/h]	324	775	730	364	775	659	337	708	696	312	674	656
d1, Uniform Delay [s]	27.36	18.11	18.14	26.54	19.84	18.06	19.15	26.31	26.35	18.67	27.68	27.72
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.15	0.28	0.28	0.11	0.29	0.30
I, Upstream Filtering 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
d2, Incremental Delay [s]	1.11	1.06	1.15	4.13	2.31	1.21	1.30	8.66	9.03	0.62	12.11	12.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.17	0.31	0.32	0.46	0.50	0.31	0.45	0.88	0.88	0.33	0.91	0.91
d, Delay for Lane Group [s/veh]	28.47	19.17	19.29	30.67	22.14	19.27	20.46	34.98	35.39	19.30	39.79	40.45
Lane Group LOS	C	B	B	C	C	B	C	C	D	B	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.99	3.43	3.30	3.28	6.09	2.89	1.77	13.29	13.18	1.14	14.02	13.82
50th-Percentile Queue Length [ft/ln]	24.78	85.87	82.38	81.93	152.22	72.13	44.28	332.29	329.51	28.57	350.59	345.55
95th-Percentile Queue Length [veh/ln]	1.78	6.18	5.93	5.90	10.14	5.19	3.19	19.27	19.13	2.06	20.17	19.92
95th-Percentile Queue Length [ft/ln]	44.61	154.56	148.28	147.47	253.39	129.83	79.70	481.76	478.36	51.42	504.13	497.98

Movement, Approach, & Intersection Results

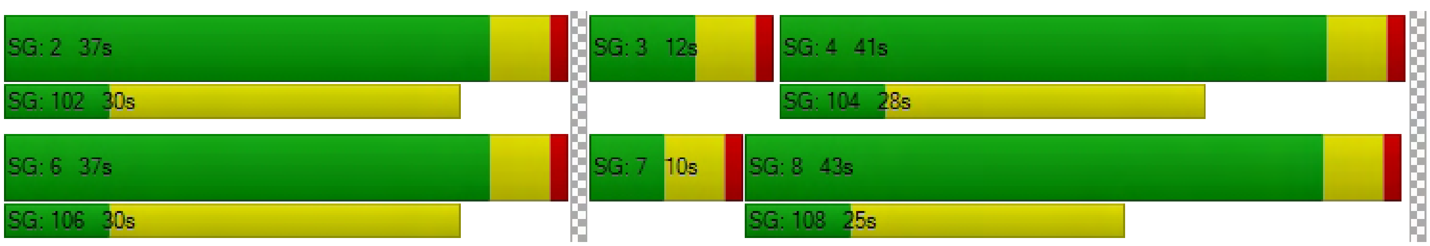
d_M, Delay for Movement [s/veh]	28.47	19.22	19.29	30.67	22.14	19.27	20.46	35.17	35.39	19.30	40.09	40.45
Movement LOS	C	B	B	C	C	B	C	D	D	B	D	D
d_A, Approach Delay [s/veh]	20.17			23.25			33.56			38.47		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	31.44											
Intersection LOS	C											
Intersection V/C	0.670											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	2.542	2.838	3.005	3.159
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	844	800
d_b, Bicycle Delay [s]	18.69	18.69	15.02	16.20
I_b,int, Bicycle LOS Score for Intersection	1.997	2.810	2.703	2.644
Bicycle LOS	A	C	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 7: Project West Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	10	0	0	10	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	106	0	0	0	0	0	0	0	48
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	106	0	0	0	10	0	0	10	48
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	29	0	0	0	3	0	0	3	13
Total Analysis Volume [veh/h]	0	0	0	115	0	0	0	11	0	0	11	52
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.76	9.39	8.35	9.27	9.76	8.97	7.32	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.41	0.41	0.41	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	10.20	10.20	10.20	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.83			9.27			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.64											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 8: Project East Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.062

Intersection Setup

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Base Volume Input [veh/h]	0	0	0	10	10	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	0	0	106	48	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	0	0	116	58	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	0	0	32	16	5
Total Analysis Volume [veh/h]	49	0	0	126	63	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.84	8.92	7.36	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.20	0.20	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.93	4.93	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.84		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.85					
Intersection LOS	A					

OPENING YEAR (2021) PLUS PROJECT (EAGP)

S2A Modular Manufacturing

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Report File: G:\...\AMEAG1p.pdf

Scenario 8 Opening Year (Phase1) (EAGp)

5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.522	24.4	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.151	33.2	D
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.484	12.4	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.707	37.7	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	SB Left	0.392	16.7	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Left	0.594	26.1	C
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	NB Thru	0.000	9.4	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.010	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: State Street / Esplanade Avenue

Control Type:	Signalized	Delay (sec / veh):	24.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Base Volume Input [veh/h]	41	503	78	170	567	93	65	347	66	97	427	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	5	4	0	15	0	0	0	15	10	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	528	85	177	605	97	68	361	84	111	444	166
Peak Hour Factor	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	144	23	48	165	27	19	99	23	30	121	45
Total Analysis Volume [veh/h]	53	578	93	194	662	106	74	395	92	121	486	182
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	13	30	0	10	32	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	22	0	0	23	0	0	23	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	4	40	40	51	42	42	24	14	14	24	15	15
g / C, Green / Cycle	0.04	0.47	0.47	0.60	0.50	0.50	0.28	0.17	0.17	0.28	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.18	0.18	0.20	0.21	0.21	0.06	0.13	0.13	0.10	0.13	0.11
s, saturation flow rate [veh/h]	1810	1900	1809	966	1900	1810	1188	1900	1778	1219	3618	1615
c, Capacity [veh/h]	77	887	844	609	945	900	346	315	295	355	636	284
d1, Uniform Delay [s]	40.17	14.77	14.78	8.54	13.57	13.57	23.51	34.11	34.17	24.19	33.39	32.58
k, delay calibration	0.11	0.50	0.50	0.12	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	10.20	1.28	1.35	0.34	1.35	1.42	0.30	4.55	5.11	0.56	1.95	2.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.69	0.39	0.39	0.32	0.42	0.42	0.21	0.79	0.80	0.34	0.76	0.64
d, Delay for Lane Group [s/veh]	50.37	16.05	16.13	8.87	14.92	14.99	23.82	38.66	39.27	24.75	35.34	34.99
Lane Group LOS	D	B	B	A	B	B	C	D	D	C	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.27	4.18	4.01	1.39	4.58	4.38	1.06	5.05	4.83	1.79	4.64	3.45
50th-Percentile Queue Length [ft/ln]	31.81	104.58	100.36	34.75	114.58	109.55	26.52	126.28	120.78	44.73	115.97	86.35
95th-Percentile Queue Length [veh/ln]	2.29	7.53	7.23	2.50	8.09	7.82	1.91	8.74	8.44	3.22	8.17	6.22
95th-Percentile Queue Length [ft/ln]	57.25	188.25	180.65	62.55	202.36	195.38	47.73	218.42	210.90	80.51	204.27	155.43

Movement, Approach, & Intersection Results

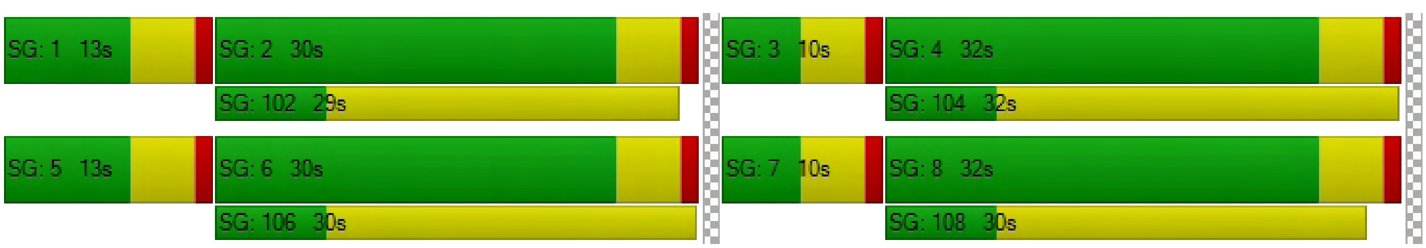
d_M, Delay for Movement [s/veh]	50.37	16.08	16.13	8.87	14.95	14.99	23.82	38.88	39.27	24.75	35.34	34.99
Movement LOS	D	B	B	A	B	B	C	D	D	C	D	C
d_A, Approach Delay [s/veh]	18.60			13.73			36.96			33.64		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	24.35											
Intersection LOS	C											
Intersection V/C	0.522											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.745	2.784	2.649	2.944
Crosswalk LOS	B	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	588	588	635	635
d_b, Bicycle Delay [s]	21.18	21.18	19.79	19.79
I_b,int, Bicycle LOS Score for Intersection	2.157	2.353	2.022	2.211
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	33.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.151

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	0	629	674	1	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	42	0	0	40	14	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	654	701	41	19	20
Peak Hour Factor	0.8702	0.8702	0.8702	0.8702	0.8702	0.8702
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	188	201	12	5	6
Total Analysis Volume [veh/h]	48	752	806	47	22	23
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.01	0.00	0.15	0.04
d_M, Delay for Movement [s/veh]	9.82	0.00	0.00	0.00	33.24	14.74
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.19	0.00	0.00	0.00	0.69	0.69
95th-Percentile Queue Length [ft/ln]	4.81	0.00	0.00	0.00	17.15	17.15
d_A, Approach Delay [s/veh]	0.59		0.00		23.78	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.91					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 3: State Street / Fruitvale Avenue

Control Type:	Signalized	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Base Volume Input [veh/h]	31	604	115	65	571	41	35	37	54	23	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	40	0	0	14	1	2	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	668	120	68	608	44	38	38	56	24	3	12
Peak Hour Factor	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	194	35	20	177	13	11	11	16	7	1	3
Total Analysis Volume [veh/h]	37	778	140	79	708	51	44	44	65	28	3	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	28	0	12	27	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	23	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	42	42	4	43	43	9	9	9
g / C, Green / Cycle	0.04	0.59	0.59	0.06	0.61	0.61	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.02	0.25	0.25	0.04	0.20	0.20	0.11	0.03	0.01
s, saturation flow rate [veh/h]	1810	1900	1800	1810	1900	1855	1399	1021	1615
c, Capacity [veh/h]	67	1130	1071	103	1168	1141	254	235	216
d1, Uniform Delay [s]	33.14	7.64	7.64	32.57	6.52	6.52	29.72	26.95	26.49
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.87	1.13	1.20	11.24	0.75	0.77	2.30	0.25	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.42	0.42	0.77	0.33	0.33	0.60	0.13	0.06
d, Delay for Lane Group [s/veh]	40.01	8.78	8.84	43.80	7.27	7.29	32.02	27.20	26.61
Lane Group LOS	D	A	A	D	A	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.71	3.21	3.06	1.56	2.25	2.20	2.50	0.45	0.20
50th-Percentile Queue Length [ft/ln]	17.74	80.29	76.55	39.03	56.27	55.12	62.54	11.16	4.95
95th-Percentile Queue Length [veh/ln]	1.28	5.78	5.51	2.81	4.05	3.97	4.50	0.80	0.36
95th-Percentile Queue Length [ft/ln]	31.93	144.52	137.79	70.26	101.28	99.22	112.57	20.08	8.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.01	8.80	8.84	43.80	7.28	7.29	32.02	32.02	32.02	27.20	27.20	26.61
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	10.02			10.72			32.02			27.02		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	12.39											
Intersection LOS	B											
Intersection V/C	0.484											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.859	2.864	1.860	2.060
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	657	629	714	714
d_b, Bicycle Delay [s]	15.78	16.46	14.46	14.46
I_b,int, Bicycle LOS Score for Intersection	2.347	2.251	1.812	1.634
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	37.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	24	531	63	110	516	34	69	176	43	22	187	138
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	32	0	2	11	1	3	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	584	66	116	548	36	75	183	45	23	195	149
Peak Hour Factor	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	170	19	34	159	10	22	53	13	7	57	43
Total Analysis Volume [veh/h]	29	679	77	135	637	42	87	213	52	27	227	173
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	30	0	15	30	0	0	35	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	39	39	10	46	46	23	17	17
g / C, Green / Cycle	0.03	0.36	0.36	0.09	0.42	0.42	0.21	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.20	0.20	0.07	0.18	0.18	0.19	0.13	0.11
s, saturation flow rate [veh/h]	1810	1900	1833	1810	1900	1859	1830	1890	1615
c, Capacity [veh/h]	50	679	655	164	799	782	390	296	253
d1, Uniform Delay [s]	52.89	28.49	28.50	49.18	22.56	22.56	42.21	45.22	43.84
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.03	3.40	3.53	9.70	1.68	1.72	8.27	7.07	3.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.57	0.57	0.82	0.43	0.43	0.90	0.86	0.68
d, Delay for Lane Group [s/veh]	62.92	31.89	32.03	58.88	24.24	24.28	50.48	52.29	47.07
Lane Group LOS	E	C	C	E	C	C	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.93	8.71	8.44	4.01	6.38	6.25	9.93	7.17	4.58
50th-Percentile Queue Length [ft/ln]	23.29	217.65	210.90	100.32	159.48	156.35	248.25	179.25	114.43
95th-Percentile Queue Length [veh/ln]	1.68	13.55	13.20	7.22	10.52	10.36	15.10	11.56	8.09
95th-Percentile Queue Length [ft/ln]	41.92	338.63	329.98	180.57	263.04	258.88	377.44	289.03	202.14

Movement, Approach, & Intersection Results

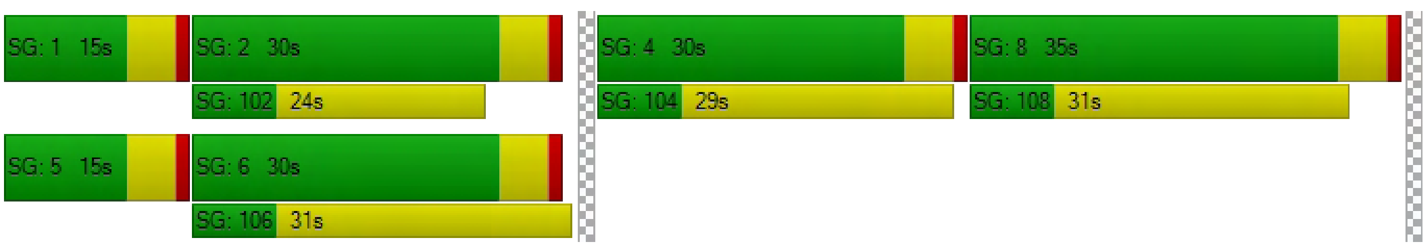
d_M, Delay for Movement [s/veh]	62.92	31.95	32.03	58.88	24.26	24.28	50.48	50.48	50.48	52.29	52.29	47.07
Movement LOS	E	C	C	E	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	33.10			30.00			50.48			50.18		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	37.68											
Intersection LOS	D											
Intersection V/C	0.707											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	44.55	44.55
I_p,int, Pedestrian LOS Score for Intersection	2.706	2.842	2.147	2.319
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	455	545	455
d_b, Bicycle Delay [s]	32.84	32.84	29.09	32.84
I_b,int, Bicycle LOS Score for Intersection	2.207	2.231	2.140	2.264
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: State Street / Devonshire Avenue

Control Type:	Signalized	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.392

Intersection Setup

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Base Volume Input [veh/h]	19	488	17	52	497	65	71	101	48	12	46	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	28	0	1	9	1	2	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	536	18	55	526	69	76	105	50	12	48	33
Peak Hour Factor	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	157	5	16	154	20	22	31	15	4	14	10
Total Analysis Volume [veh/h]	23	626	21	64	614	81	89	123	58	14	56	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	10	31	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	21	0	0	23	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	2	45	45	4	46	46	17	10	17	7	7
g / C, Green / Cycle	0.03	0.56	0.56	0.05	0.58	0.58	0.21	0.13	0.21	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.17	0.17	0.04	0.17	0.05	0.06	0.10	0.01	0.03	0.02
s, saturation flow rate [veh/h]	1810	1900	1878	1810	3618	1615	1570	1798	1378	1900	1615
c, Capacity [veh/h]	48	1053	1041	89	2086	931	432	232	309	169	144
d1, Uniform Delay [s]	38.49	9.61	9.62	37.61	8.66	7.57	26.37	33.84	25.61	34.30	34.11
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.11	0.76	0.77	10.48	0.36	0.18	0.23	5.62	0.06	1.13	1.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.31	0.31	0.72	0.29	0.09	0.21	0.78	0.05	0.33	0.27
d, Delay for Lane Group [s/veh]	45.61	10.38	10.39	48.09	9.02	7.75	26.61	39.46	25.67	35.43	35.11
Lane Group LOS	D	B	B	D	A	A	C	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.52	2.79	2.76	1.44	2.34	0.56	1.41	3.69	0.21	1.06	0.74
50th-Percentile Queue Length [ft/ln]	13.07	69.69	69.06	36.05	58.44	14.07	35.18	92.15	5.33	26.44	18.39
95th-Percentile Queue Length [veh/ln]	0.94	5.02	4.97	2.60	4.21	1.01	2.53	6.63	0.38	1.90	1.32
95th-Percentile Queue Length [ft/ln]	23.52	125.45	124.30	64.89	105.19	25.32	63.33	165.87	9.59	47.59	33.11

Movement, Approach, & Intersection Results

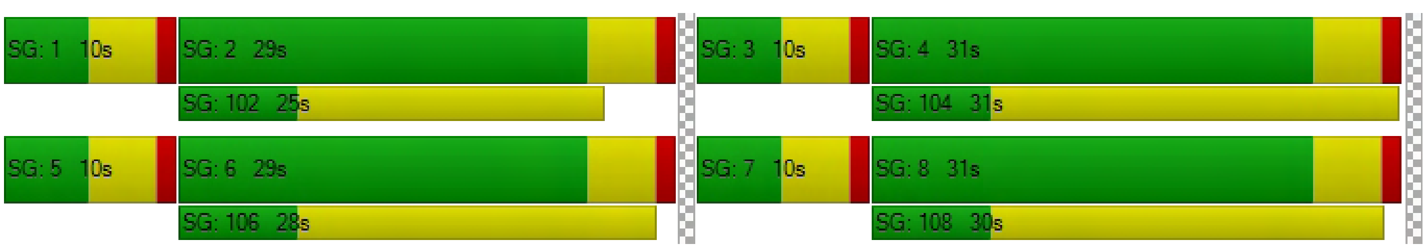
d_M, Delay for Movement [s/veh]	45.61	10.38	10.39	48.09	9.02	7.75	26.61	39.46	39.46	25.67	35.43	35.11
Movement LOS	D	B	B	D	A	A	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	11.59			12.18			35.22			34.06		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	16.72											
Intersection LOS	B											
Intersection V/C	0.392											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.743	2.883	2.073	2.202
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	650	650
d_b, Bicycle Delay [s]	19.60	19.60	18.23	18.23
I_b,int, Bicycle LOS Score for Intersection	2.112	2.186	2.005	1.739
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	26.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.594

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	0	2	4	3	9	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	381	65	103	297	90	102	722	35	46	800	52
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	109	19	30	85	26	29	207	10	13	230	15
Total Analysis Volume [veh/h]	43	438	75	118	341	103	117	830	40	53	920	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	16	34	0	14	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	35	35	35	35	35	35	7	27	27	4	24	24
g / C, Green / Cycle	0.43	0.43	0.43	0.43	0.43	0.43	0.08	0.34	0.34	0.04	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.04	0.14	0.14	0.13	0.18	0.06	0.06	0.23	0.23	0.03	0.26	0.26
s, saturation flow rate [veh/h]	1056	1900	1805	901	1900	1615	1810	1900	1869	1810	1900	1859
c, Capacity [veh/h]	389	820	779	374	820	697	152	639	629	81	565	553
d1, Uniform Delay [s]	21.47	15.01	15.03	21.58	15.77	13.82	35.94	22.92	22.92	37.65	26.75	26.75
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.19	0.19
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.58	1.03	1.10	2.20	1.55	0.45	8.02	1.32	1.34	8.67	7.75	7.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.11	0.32	0.32	0.32	0.42	0.15	0.77	0.69	0.69	0.66	0.88	0.88
d, Delay for Lane Group [s/veh]	22.04	16.03	16.13	23.78	17.32	14.27	43.96	24.24	24.26	46.32	34.50	34.66
Lane Group LOS	C	B	B	C	B	B	D	C	C	D	C	C
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.63	3.06	2.95	1.84	4.21	1.11	2.50	6.87	6.76	1.19	9.60	9.42
50th-Percentile Queue Length [ft/ln]	15.67	76.40	73.67	46.00	105.37	27.72	62.47	171.77	169.10	29.64	240.00	235.49
95th-Percentile Queue Length [veh/ln]	1.13	5.50	5.30	3.31	7.58	2.00	4.50	11.17	11.03	2.13	14.68	14.45
95th-Percentile Queue Length [ft/ln]	28.21	137.52	132.61	82.80	189.54	49.89	112.44	279.24	275.73	53.35	367.04	361.33

Movement, Approach, & Intersection Results

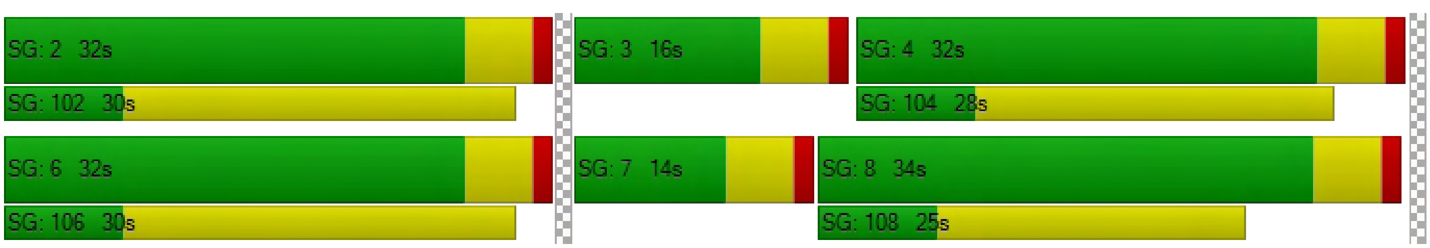
d_M, Delay for Movement [s/veh]	22.04	16.07	16.13	23.78	17.32	14.27	43.96	24.25	24.26	46.32	34.57	34.66
Movement LOS	C	B	B	C	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	16.54			18.12			26.59			35.18		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	26.12											
Intersection LOS	C											
Intersection V/C	0.594											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.446	2.701	2.821	2.929
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	675	675	725	675
d_b, Bicycle Delay [s]	17.56	17.56	16.26	17.56
I_b,int, Bicycle LOS Score for Intersection	2.018	2.487	2.374	2.412
Bicycle LOS	B	B	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Project West Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	10	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	21	0	0	0	0	0	0	0	64
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	21	0	0	0	10	0	0	1	64
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	0	0	0	3	0	0	0	17
Total Analysis Volume [veh/h]	0	0	0	23	0	0	0	11	0	0	1	70
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.75	9.43	8.35	8.85	9.33	8.55	7.33	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.07	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.84	1.84	1.84	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.84			8.85			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.94											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 8: Project East Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Base Volume Input [veh/h]	0	0	0	10	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	21	64	18
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	31	65	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	8	18	5
Total Analysis Volume [veh/h]	9	0	0	34	71	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.10	8.70	7.37	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.77	0.77	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.10		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.61					
Intersection LOS	A					

S2A Modular Manufacturing

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Scenario 8 Opening Year (Phase1) (EAGp)
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.708	28.3	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.330	46.4	E
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.500	11.5	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.817	42.9	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	NB Left	0.421	16.7	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Right	0.683	32.2	C
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Thru	0.000	9.4	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.024	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: State Street / Esplanade Avenue

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Base Volume Input [veh/h]	90	571	166	214	636	93	110	498	84	122	498	145
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	11	9	0	5	0	0	0	6	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	106	605	182	223	667	97	114	518	93	131	518	151
Peak Hour Factor	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	171	51	63	188	27	32	146	26	37	146	43
Total Analysis Volume [veh/h]	120	683	205	252	753	110	129	585	105	148	585	170
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	12	25	0	11	32	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	22	0	0	23	0	0	23	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	7	32	32	44	32	32	31	19	19	31	20	20
g / C, Green / Cycle	0.08	0.38	0.38	0.52	0.38	0.38	0.36	0.22	0.22	0.36	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.07	0.24	0.24	0.28	0.23	0.23	0.11	0.19	0.19	0.13	0.16	0.11
s, saturation flow rate [veh/h]	1810	1900	1751	903	1900	1816	1125	1900	1801	1098	3618	1615
c, Capacity [veh/h]	154	718	662	464	715	683	411	425	403	389	844	377
d1, Uniform Delay [s]	38.20	21.77	21.77	14.46	21.59	21.60	19.73	31.57	31.58	20.52	29.87	27.99
k, delay calibration	0.11	0.50	0.50	0.28	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	8.24	4.40	4.76	2.55	3.96	4.15	0.43	4.33	4.59	0.61	1.03	0.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.78	0.64	0.64	0.54	0.62	0.62	0.31	0.83	0.83	0.38	0.69	0.45
d, Delay for Lane Group [s/veh]	46.44	26.17	26.54	17.01	25.55	25.75	20.16	35.90	36.17	21.13	30.90	28.83
Lane Group LOS	D	C	C	B	C	C	C	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.71	7.80	7.25	2.67	7.32	7.04	1.65	6.95	6.63	1.92	5.21	2.86
50th-Percentile Queue Length [ft/ln]	67.64	194.93	181.36	66.70	182.94	175.97	41.27	173.81	165.69	48.11	130.14	71.43
95th-Percentile Queue Length [veh/ln]	4.87	12.38	11.67	4.80	11.75	11.39	2.97	11.28	10.85	3.46	8.95	5.14
95th-Percentile Queue Length [ft/ln]	121.75	309.41	291.79	120.06	293.84	284.75	74.28	281.92	271.25	86.59	223.68	128.57

Movement, Approach, & Intersection Results

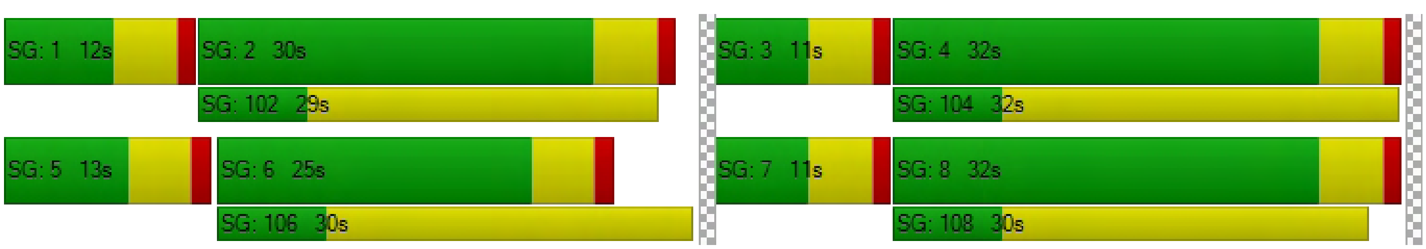
d_M, Delay for Movement [s/veh]	46.44	26.29	26.54	17.01	25.63	25.75	20.16	36.01	36.17	21.13	30.90	28.83
Movement LOS	D	C	C	B	C	C	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	28.74			23.70			33.53			28.91		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.34											
Intersection LOS	C											
Intersection V/C	0.708											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.872	2.889	2.774	3.068
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	588	471	635	635
d_b, Bicycle Delay [s]	21.18	24.85	19.79	19.79
I_b,int, Bicycle LOS Score for Intersection	2.391	2.479	2.235	2.305
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	46.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.330

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	4	818	807	6	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	15	32	36
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	851	840	21	37	41
Peak Hour Factor	0.9153	0.9153	0.9153	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	232	229	6	10	11
Total Analysis Volume [veh/h]	24	930	918	23	40	45
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.01	0.00	0.33	0.08
d_M, Delay for Movement [s/veh]	10.05	0.00	0.00	0.00	46.39	23.33
Movement LOS	B	A	A	A	E	C
95th-Percentile Queue Length [veh/ln]	0.10	0.00	0.00	0.00	1.87	1.87
95th-Percentile Queue Length [ft/ln]	2.52	0.00	0.00	0.00	46.81	46.81
d_A, Approach Delay [s/veh]	0.25		0.00		34.18	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	1.59					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 3: State Street / Fruitvale Avenue

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.500

Intersection Setup

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Base Volume Input [veh/h]	50	741	23	14	764	44	45	0	49	43	27	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	17	0	0	34	2	1	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	788	24	15	829	48	48	0	51	45	28	27
Peak Hour Factor	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	224	7	4	236	14	14	0	15	13	8	8
Total Analysis Volume [veh/h]	59	898	27	17	944	55	55	0	58	51	32	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	30	0	10	26	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	23	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	44	44	1	42	42	10	10	10
g / C, Green / Cycle	0.05	0.63	0.63	0.02	0.60	0.60	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.03	0.24	0.24	0.01	0.27	0.27	0.12	0.06	0.02
s, saturation flow rate [veh/h]	1810	1900	1881	1810	1900	1863	969	1458	1615
c, Capacity [veh/h]	90	1196	1184	38	1142	1120	208	280	219
d1, Uniform Delay [s]	32.71	6.36	6.36	33.90	7.59	7.59	30.12	27.53	26.71
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.89	0.95	0.96	8.01	1.24	1.27	2.22	0.58	0.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.39	0.39	0.45	0.44	0.44	0.54	0.30	0.14
d, Delay for Lane Group [s/veh]	40.59	7.32	7.33	41.91	8.83	8.86	32.33	28.12	27.00
Lane Group LOS	D	A	A	D	A	A	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.12	2.71	2.68	0.35	3.44	3.38	1.89	1.22	0.44
50th-Percentile Queue Length [ft/ln]	28.03	67.67	67.06	8.86	86.06	84.60	47.17	30.56	11.08
95th-Percentile Queue Length [veh/ln]	2.02	4.87	4.83	0.64	6.20	6.09	3.40	2.20	0.80
95th-Percentile Queue Length [ft/ln]	50.46	121.81	120.71	15.94	154.91	152.28	84.91	55.01	19.95

Movement, Approach, & Intersection Results

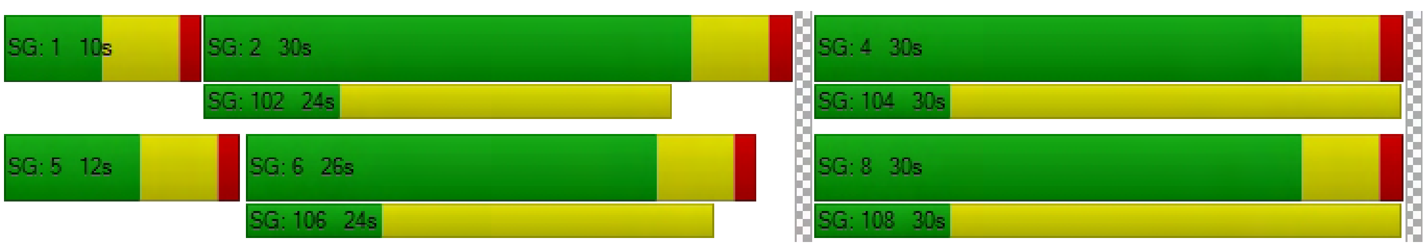
d_M, Delay for Movement [s/veh]	40.59	7.32	7.33	41.91	8.85	8.86	32.33	32.33	32.33	28.12	28.12	27.00
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.32			9.40			32.33			27.81		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	11.47											
Intersection LOS	B											
Intersection V/C	0.500											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.953	2.951	1.869	1.995
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	714	600	714	714
d_b, Bicycle Delay [s]	14.46	17.15	14.46	14.46
I_b,int, Bicycle LOS Score for Intersection	2.371	2.398	1.746	1.748
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	42.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.817

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	29	612	76	127	694	98	63	248	33	52	222	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	0	6	24	4	2	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	649	79	138	746	106	68	258	34	54	231	120
Peak Hour Factor	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	179	22	38	205	29	19	71	9	15	64	33
Total Analysis Volume [veh/h]	33	715	87	152	822	117	75	284	37	59	254	132
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	27	0	16	33	0	0	35	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	25	25	10	31	31	23	18	18
g / C, Green / Cycle	0.03	0.26	0.26	0.10	0.33	0.33	0.24	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.02	0.22	0.22	0.08	0.25	0.25	0.21	0.17	0.08
s, saturation flow rate [veh/h]	1810	1900	1829	1810	1900	1818	1852	1882	1615
c, Capacity [veh/h]	57	491	473	186	627	600	440	359	308
d1, Uniform Delay [s]	45.45	33.29	33.30	41.81	28.56	28.57	35.13	37.35	33.91
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.12	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.17	15.07	15.62	8.59	8.66	9.04	7.32	6.62	0.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.83	0.83	0.82	0.77	0.77	0.90	0.87	0.43
d, Delay for Lane Group [s/veh]	54.61	48.36	48.92	50.40	37.22	37.60	42.45	43.96	34.85
Lane Group LOS	D	D	D	D	D	D	D	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.91	10.73	10.41	3.82	10.70	10.31	9.35	7.43	2.67
50th-Percentile Queue Length [ft/ln]	22.68	268.29	260.23	95.55	267.59	257.86	233.86	185.77	66.83
95th-Percentile Queue Length [veh/ln]	1.63	16.10	15.70	6.88	16.07	15.58	14.37	11.90	4.81
95th-Percentile Queue Length [ft/ln]	40.82	402.60	392.51	171.99	401.73	389.53	359.26	297.54	120.30

Movement, Approach, & Intersection Results

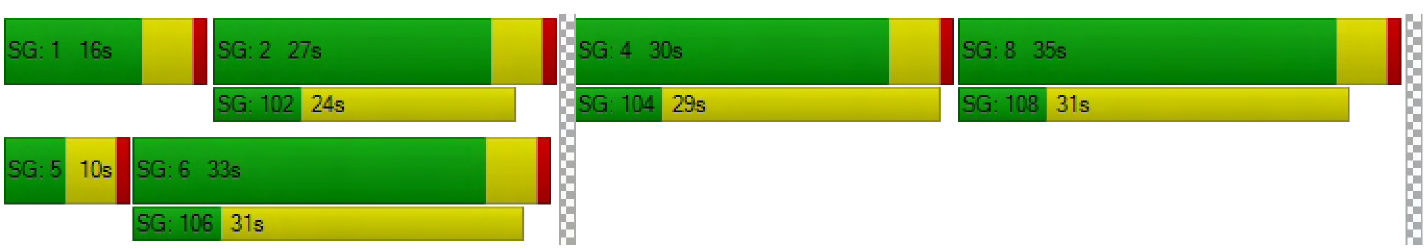
d_M, Delay for Movement [s/veh]	54.61	48.60	48.92	50.40	37.38	37.60	42.45	42.45	42.45	43.96	43.96	34.85
Movement LOS	D	D	D	D	D	D	D	D	D	D	D	C
d_A, Approach Delay [s/veh]		48.87			39.22			42.45			41.26	
Approach LOS		D			D			D			D	
d_I, Intersection Delay [s/veh]	42.92											
Intersection LOS	D											
Intersection V/C	0.817											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
I_p,int, Pedestrian LOS Score for Intersection	2.740	2.891	2.237	2.362
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	463	589	632	526
d_b, Bicycle Delay [s]	28.05	23.63	22.24	25.79
I_b,int, Bicycle LOS Score for Intersection	2.248	2.460	2.213	2.294
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: State Street / Devonshire Avenue

Control Type:	Signalized	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.421

Intersection Setup

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Base Volume Input [veh/h]	47	620	7	40	655	71	83	100	62	5	74	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	0	2	20	2	1	0	0	0	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	655	7	44	701	76	87	104	65	5	77	36
Peak Hour Factor	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	173	2	12	185	20	23	27	17	1	20	10
Total Analysis Volume [veh/h]	52	693	7	47	741	80	92	110	69	5	81	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	27	0	16	27	0	10	31	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	21	0	0	23	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	3	46	46	3	46	46	16	10	16	6	6
g / C, Green / Cycle	0.04	0.57	0.57	0.04	0.57	0.57	0.20	0.13	0.20	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.18	0.18	0.03	0.20	0.05	0.06	0.10	0.00	0.04	0.02
s, saturation flow rate [veh/h]	1810	1900	1893	1810	3618	1615	1570	1779	1358	1900	1615
c, Capacity [veh/h]	80	1085	1082	76	2058	919	399	230	291	146	124
d1, Uniform Delay [s]	37.72	9.04	9.04	37.79	9.37	7.84	27.13	33.82	26.12	35.73	35.03
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.41	0.79	0.79	7.84	0.49	0.19	0.29	5.64	0.02	3.30	1.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.32	0.32	0.62	0.36	0.09	0.23	0.78	0.02	0.56	0.31
d, Delay for Lane Group [s/veh]	46.13	9.83	9.83	45.63	9.86	8.03	27.42	39.46	26.15	39.03	36.42
Lane Group LOS	D	A	A	D	A	A	C	D	C	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.15	2.89	2.88	1.03	3.03	0.57	1.48	3.65	0.08	1.63	0.74
50th-Percentile Queue Length [ft/ln]	28.72	72.16	71.94	25.86	75.86	14.26	37.06	91.16	1.92	40.74	18.40
95th-Percentile Queue Length [veh/ln]	2.07	5.20	5.18	1.86	5.46	1.03	2.67	6.56	0.14	2.93	1.32
95th-Percentile Queue Length [ft/ln]	51.69	129.88	129.49	46.55	136.55	25.67	66.71	164.09	3.46	73.33	33.11

Movement, Approach, & Intersection Results

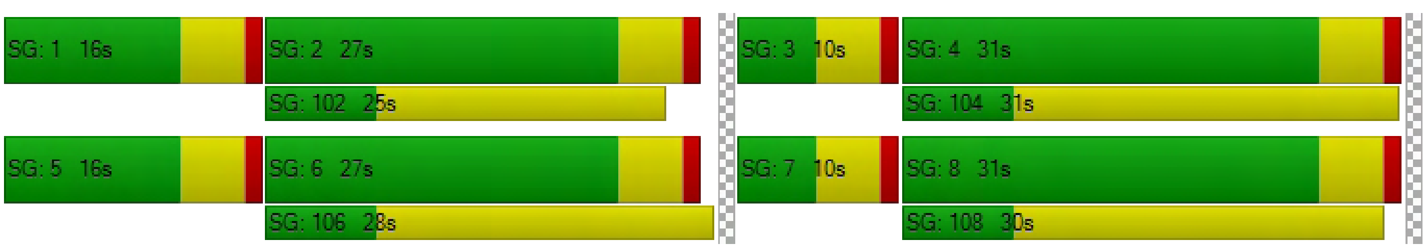
d_M, Delay for Movement [s/veh]	46.13	9.83	9.83	45.63	9.86	8.03	27.42	39.46	39.46	26.15	39.03	36.42
Movement LOS	D	A	A	D	A	A	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	12.34			11.63			35.38			37.71		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.69											
Intersection LOS	B											
Intersection V/C	0.421											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.787	2.915	2.091	2.195
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	550	650	650
d_b, Bicycle Delay [s]	21.03	21.03	18.23	18.23
I_b,int, Bicycle LOS Score for Intersection	2.180	2.276	2.007	1.764
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	32.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.683

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	0	3	11	6	3	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	369	77	155	354	186	142	1113	60	99	1064	86
Peak Hour Factor	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	101	21	42	97	51	39	304	16	27	291	24
Total Analysis Volume [veh/h]	56	404	84	170	387	203	155	1217	66	108	1164	94
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	37	0	0	37	0	12	43	0	10	41	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	36	36	36	36	36	36	44	35	35	44	33	33
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.49	0.38	0.38	0.49	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.06	0.13	0.13	0.18	0.20	0.13	0.21	0.34	0.34	0.16	0.33	0.34
s, saturation flow rate [veh/h]	1012	1900	1789	922	1900	1615	734	1900	1866	677	1900	1851
c, Capacity [veh/h]	310	755	710	346	755	642	334	729	716	310	696	678
d1, Uniform Delay [s]	28.47	18.83	18.87	27.97	20.54	18.71	19.03	25.92	25.97	18.68	27.18	27.24
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.17	0.30	0.30	0.11	0.31	0.32
I, Upstream Filtering 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
d2, Incremental Delay [s]	1.28	1.18	1.27	4.93	2.48	1.29	1.55	9.68	10.17	0.67	12.90	13.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.18	0.33	0.34	0.49	0.51	0.32	0.46	0.89	0.89	0.35	0.91	0.92
d, Delay for Lane Group [s/veh]	29.75	20.01	20.14	32.91	23.02	20.00	20.58	35.60	36.14	19.35	40.08	40.91
Lane Group LOS	C	C	C	C	C	C	C	D	D	B	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.06	3.62	3.47	3.49	6.22	2.96	1.77	13.99	13.91	1.16	14.65	14.49
50th-Percentile Queue Length [ft/ln]	26.45	90.61	86.82	87.21	155.58	73.88	44.28	349.79	347.79	29.00	366.32	362.32
95th-Percentile Queue Length [veh/ln]	1.90	6.52	6.25	6.28	10.31	5.32	3.19	20.13	20.03	2.09	20.93	20.74
95th-Percentile Queue Length [ft/ln]	47.60	163.10	156.28	156.98	257.86	132.98	79.70	503.15	500.72	52.21	523.27	518.41

Movement, Approach, & Intersection Results

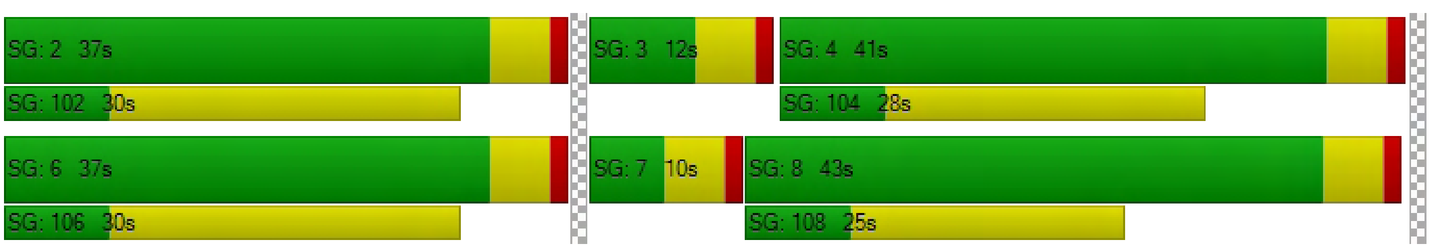
d_M, Delay for Movement [s/veh]	29.75	20.06	20.14	32.91	23.02	20.00	20.58	35.85	36.14	19.35	40.46	40.91
Movement LOS	C	C	C	C	C	C	C	D	D	B	D	D
d_A, Approach Delay [s/veh]	21.07			24.43			34.22			38.82		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	32.20											
Intersection LOS	C											
Intersection V/C	0.683											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	2.552	2.844	3.030	3.187
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	844	800
d_b, Bicycle Delay [s]	18.69	18.69	15.02	16.20
I_b,int, Bicycle LOS Score for Intersection	2.008	2.814	2.746	2.687
Bicycle LOS	B	C	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 7: Project West Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	10	0	0	10	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	48	0	0	0	0	0	0	0	23
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	48	0	0	0	10	0	0	10	23
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	13	0	0	0	3	0	0	3	6
Total Analysis Volume [veh/h]	0	0	0	52	0	0	0	11	0	0	11	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.68	9.24	8.35	8.89	9.38	8.61	7.27	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.17	0.17	0.17	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	4.21	4.21	4.21	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.76			8.89			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.67											
Intersection LOS	A											

Intersection Level Of Service Report

Intersection 8: Project East Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Base Volume Input [veh/h]	0	0	0	10	10	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	0	0	48	23	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	0	0	58	33	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	0	16	9	3
Total Analysis Volume [veh/h]	22	0	0	63	36	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.11	8.58	7.29	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.88	1.88	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.11		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.52					
Intersection LOS	A					

OPENING YEAR (2021) PLUS PROJECT PLUS CUMULATIVE (EAGPC)

S2A Modular Manufacturing

Vistro File: G:\...\AM.vistro

Scenario 7 Opening Year (Phase1) with Project

Report File: G:\...\AMOY1p.pdf

5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.586	25.2	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.197	43.1	E
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.550	13.9	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.811	49.2	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	SB Left	0.447	17.0	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Left	0.714	28.9	C
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	NB Thru	0.000	9.4	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.010	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: State Street / Esplanade Avenue

Control Type:	Signalized	Delay (sec / veh):	25.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

Intersection Setup

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Base Volume Input [veh/h]	41	503	78	170	567	93	65	347	66	97	427	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	71	27	18	75	5	6	15	32	30	14	17
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	594	108	195	665	102	74	376	101	131	458	183
Peak Hour Factor	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	162	30	53	182	28	20	103	28	36	125	50
Total Analysis Volume [veh/h]	78	650	118	213	728	112	81	411	111	143	501	200
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	13	30	0	10	32	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	22	0	0	23	0	0	23	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	5	38	38	50	40	40	25	15	15	25	16	16
g / C, Green / Cycle	0.06	0.45	0.45	0.59	0.47	0.47	0.29	0.18	0.18	0.29	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.04	0.21	0.21	0.23	0.23	0.23	0.07	0.14	0.14	0.12	0.14	0.12
s, saturation flow rate [veh/h]	1810	1900	1800	927	1900	1813	1174	1900	1763	1188	3618	1615
c, Capacity [veh/h]	103	854	809	566	898	857	353	335	311	354	668	298
d1, Uniform Delay [s]	39.57	16.28	16.29	9.54	15.29	15.29	22.98	33.64	33.70	23.96	32.83	32.28
k, delay calibration	0.11	0.50	0.50	0.18	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	10.94	1.80	1.90	0.69	1.82	1.91	0.33	4.54	5.12	0.74	1.72	2.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.76	0.46	0.46	0.38	0.48	0.48	0.23	0.80	0.81	0.40	0.75	0.67
d, Delay for Lane Group [s/veh]	50.51	18.08	18.18	10.23	17.11	17.20	23.31	38.18	38.82	24.70	34.54	34.88
Lane Group LOS	D	B	B	B	B	B	C	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.86	5.23	4.98	1.65	5.51	5.28	1.14	5.41	5.13	2.11	4.72	3.80
50th-Percentile Queue Length [ft/ln]	46.43	130.64	124.45	41.25	137.77	132.01	28.61	135.34	128.28	52.75	118.11	94.99
95th-Percentile Queue Length [veh/ln]	3.34	8.97	8.64	2.97	9.36	9.05	2.06	9.23	8.85	3.80	8.29	6.84
95th-Percentile Queue Length [ft/ln]	83.57	224.36	215.93	74.24	234.01	226.22	51.50	230.74	221.15	94.94	207.23	170.99

Movement, Approach, & Intersection Results

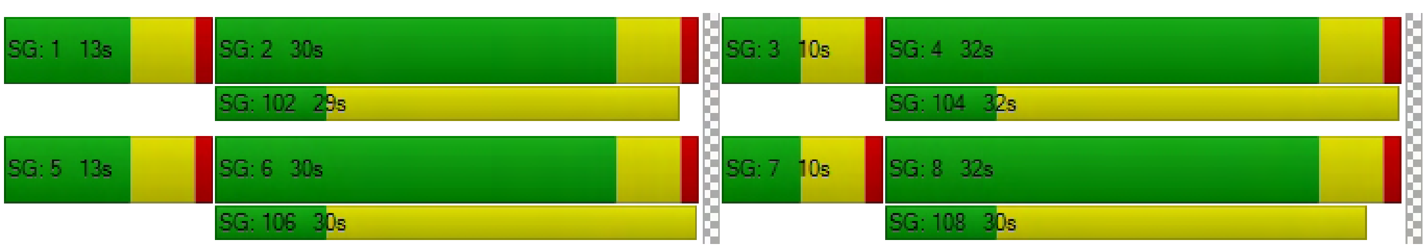
d_M, Delay for Movement [s/veh]	50.51	18.12	18.18	10.23	17.15	17.20	23.31	38.40	38.82	24.70	34.54	34.88
Movement LOS	D	B	B	B	B	B	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	21.12			15.76			36.45			32.96		
Approach LOS	C			B			D			C		
d_I, Intersection Delay [s/veh]	25.18											
Intersection LOS	C											
Intersection V/C	0.586											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.812	2.836	2.675	2.980
Crosswalk LOS	C	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	588	588	635	635
d_b, Bicycle Delay [s]	21.18	21.18	19.79	19.79
I_b,int, Bicycle LOS Score for Intersection	2.258	2.428	2.057	2.256
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	43.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.197

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	0	629	674	1	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	42	111	94	40	14	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	765	795	41	19	20
Peak Hour Factor	0.8702	0.8702	0.8702	0.8702	0.8702	0.8702
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	220	228	12	5	6
Total Analysis Volume [veh/h]	48	879	914	47	22	23
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.01	0.01	0.00	0.20	0.04
d_M, Delay for Movement [s/veh]	10.32	0.00	0.00	0.00	43.12	17.64
Movement LOS	B	A	A	A	E	C
95th-Percentile Queue Length [veh/ln]	0.21	0.00	0.00	0.00	0.90	0.90
95th-Percentile Queue Length [ft/ln]	5.31	0.00	0.00	0.00	22.49	22.49
d_A, Approach Delay [s/veh]	0.53		0.00		30.10	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	0.96					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 3: State Street / Fruitvale Avenue

Control Type:	Signalized	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.550

Intersection Setup

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Base Volume Input [veh/h]	31	604	115	65	571	41	35	37	54	23	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	135	0	0	103	6	18	6	14	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	763	120	68	697	49	54	44	70	24	7	12
Peak Hour Factor	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	222	35	20	203	14	16	13	20	7	2	3
Total Analysis Volume [veh/h]	43	888	140	79	811	57	63	51	81	28	8	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	28	0	12	27	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	23	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	40	40	4	41	41	11	11	11
g / C, Green / Cycle	0.04	0.57	0.57	0.06	0.58	0.58	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.28	0.28	0.04	0.23	0.23	0.14	0.03	0.01
s, saturation flow rate [veh/h]	1810	1900	1811	1810	1900	1856	1441	1056	1615
c, Capacity [veh/h]	74	1074	1024	103	1105	1079	304	264	264
d1, Uniform Delay [s]	32.99	9.15	9.15	32.57	7.98	7.98	28.64	25.08	24.71
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.00	1.60	1.68	11.24	1.07	1.10	2.26	0.23	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.49	0.49	0.77	0.40	0.40	0.64	0.14	0.05
d, Delay for Lane Group [s/veh]	39.99	10.75	10.83	43.80	9.05	9.08	30.90	25.31	24.80
Lane Group LOS	D	B	B	D	A	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.82	4.21	4.03	1.56	3.08	3.01	3.13	0.49	0.19
50th-Percentile Queue Length [ft/ln]	20.47	105.13	100.82	39.03	76.90	75.32	78.30	12.35	4.71
95th-Percentile Queue Length [veh/ln]	1.47	7.57	7.26	2.81	5.54	5.42	5.64	0.89	0.34
95th-Percentile Queue Length [ft/ln]	36.85	189.20	181.47	70.26	138.42	135.58	140.94	22.24	8.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.99	10.78	10.83	43.80	9.07	9.08	30.90	30.90	30.90	25.31	25.31	24.80
Movement LOS	D	B	B	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.96			11.96			30.90			25.17		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.89											
Intersection LOS	B											
Intersection V/C	0.550											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.910	2.943	1.898	2.065
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	657	629	714	714
d_b, Bicycle Delay [s]	15.78	16.46	14.46	14.46
I_b,int, Bicycle LOS Score for Intersection	2.443	2.341	1.881	1.642
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	49.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.811

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	24	531	63	110	516	34	69	176	43	22	187	138
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	75	5	2	108	7	57	32	16	23	6	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	627	71	116	645	42	129	215	61	46	201	152
Peak Hour Factor	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	182	21	34	187	12	37	62	18	13	58	44
Total Analysis Volume [veh/h]	43	728	82	135	749	49	150	250	71	53	234	177
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	40	0	15	40	0	0	35	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	37	37	10	43	43	33	21	21
g / C, Green / Cycle	0.03	0.31	0.31	0.08	0.36	0.36	0.27	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.22	0.22	0.07	0.21	0.21	0.26	0.15	0.11
s, saturation flow rate [veh/h]	1810	1900	1833	1810	1900	1859	1822	1883	1615
c, Capacity [veh/h]	59	581	561	152	678	664	497	322	276
d1, Uniform Delay [s]	57.55	36.95	36.95	54.45	31.50	31.50	42.85	48.66	46.32
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.37	0.15	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.66	7.17	7.43	15.61	3.81	3.89	24.01	11.17	2.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.71	0.71	0.89	0.59	0.59	0.95	0.89	0.64
d, Delay for Lane Group [s/veh]	73.21	44.12	44.38	70.06	35.31	35.39	66.86	59.83	48.78
Lane Group LOS	E	D	D	E	D	D	E	E	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.55	11.82	11.45	4.63	9.98	9.78	16.60	9.23	5.02
50th-Percentile Queue Length [ft/ln]	38.78	295.40	286.22	115.73	249.43	244.47	414.91	230.76	125.52
95th-Percentile Queue Length [veh/ln]	2.79	17.45	17.00	8.16	15.16	14.91	23.28	14.21	8.70
95th-Percentile Queue Length [ft/ln]	69.80	436.34	424.95	203.95	378.94	372.69	581.93	355.32	217.39

Movement, Approach, & Intersection Results

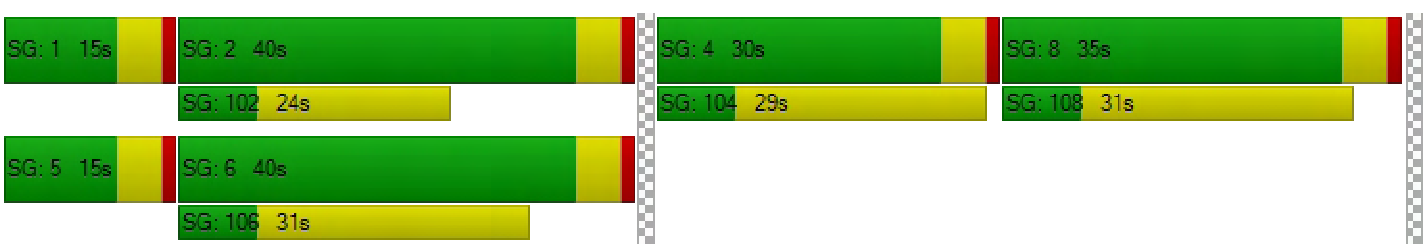
d_M, Delay for Movement [s/veh]	73.21	44.23	44.38	70.06	35.35	35.39	66.86	66.86	66.86	59.83	59.83	48.78
Movement LOS	E	D	D	E	D	D	E	E	E	E	E	D
d_A, Approach Delay [s/veh]		45.71			40.37			66.86			55.62	
Approach LOS		D			D			E			E	
d_I, Intersection Delay [s/veh]	49.23											
Intersection LOS	D											
Intersection V/C	0.811											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
I_p,int, Pedestrian LOS Score for Intersection	2.747	2.897	2.247	2.357
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	583	500	417
d_b, Bicycle Delay [s]	30.10	30.10	33.75	37.60
I_b,int, Bicycle LOS Score for Intersection	2.263	2.329	2.337	2.325
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: State Street / Devonshire Avenue

Control Type:	Signalized	Delay (sec / veh):	17.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

Intersection Setup

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Base Volume Input [veh/h]	19	488	17	52	497	65	71	101	48	12	46	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	158	1	1	188	1	2	1	7	5	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	666	19	55	705	69	76	106	57	17	48	33
Peak Hour Factor	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	195	6	16	206	20	22	31	17	5	14	10
Total Analysis Volume [veh/h]	25	778	22	64	824	81	89	124	67	20	56	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	29	0	15	29	0	10	31	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	21	0	0	23	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	2	48	48	4	50	50	18	11	18	8	8
g / C, Green / Cycle	0.03	0.56	0.56	0.05	0.58	0.58	0.22	0.13	0.22	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.01	0.21	0.21	0.04	0.23	0.05	0.06	0.11	0.01	0.03	0.02
s, saturation flow rate [veh/h]	1810	1900	1882	1810	3618	1615	1558	1789	1374	1900	1615
c, Capacity [veh/h]	50	1064	1054	86	2098	937	432	240	302	190	162
d1, Uniform Delay [s]	40.84	10.45	10.46	40.07	9.74	7.92	27.55	35.78	26.90	35.56	35.36
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.42	1.02	1.03	11.91	0.55	0.18	0.23	5.98	0.09	0.85	0.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.38	0.38	0.74	0.39	0.09	0.21	0.80	0.07	0.29	0.24
d, Delay for Lane Group [s/veh]	48.26	11.48	11.49	51.98	10.29	8.10	27.78	41.75	26.99	36.41	36.13
Lane Group LOS	D	B	B	D	B	A	C	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.60	3.88	3.85	1.56	3.66	0.61	1.50	4.16	0.32	1.11	0.77
50th-Percentile Queue Length [ft/ln]	15.05	96.98	96.14	38.96	91.41	15.15	37.38	104.06	8.12	27.68	19.25
95th-Percentile Queue Length [veh/ln]	1.08	6.98	6.92	2.81	6.58	1.09	2.69	7.49	0.58	1.99	1.39
95th-Percentile Queue Length [ft/ln]	27.09	174.56	173.06	70.13	164.54	27.27	67.28	187.30	14.61	49.82	34.65

Movement, Approach, & Intersection Results

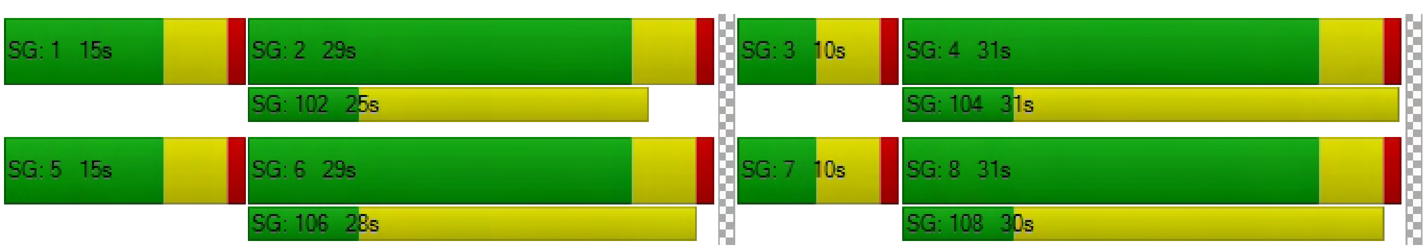
d_M, Delay for Movement [s/veh]	48.26	11.48	11.49	51.98	10.29	8.10	27.78	41.75	41.75	26.99	36.41	36.13
Movement LOS	D	B	B	D	B	A	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	12.60			12.86			37.31			34.67		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	17.04											
Intersection LOS	B											
Intersection V/C	0.447											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.830	2.954	2.080	2.207
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	565	565	612	612
d_b, Bicycle Delay [s]	21.89	21.89	20.48	20.48
I_b,int, Bicycle LOS Score for Intersection	2.240	2.359	2.022	1.749
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.714

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	62	16	45	72	83	63	39	46	20	51	35
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	428	81	146	365	170	156	761	81	66	851	83
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	123	23	42	105	49	45	219	23	19	245	24
Total Analysis Volume [veh/h]	82	492	93	168	420	195	179	875	93	76	978	95
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	16	34	0	14	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	30	30	30	30	30	30	10	31	31	4	25	25
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.38	0.12	0.38	0.38	0.06	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.08	0.16	0.16	0.20	0.22	0.12	0.10	0.26	0.26	0.04	0.29	0.29
s, saturation flow rate [veh/h]	982	1900	1797	843	1900	1615	1810	1900	1837	1810	1900	1842
c, Capacity [veh/h]	269	714	675	293	714	607	219	724	700	101	601	582
d1, Uniform Delay [s]	29.23	18.54	18.56	28.81	20.04	17.75	34.34	20.69	20.70	37.27	26.26	26.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.16	0.16	0.11	0.26	0.26
I, Upstream Filtering 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
d2, Incremental Delay [s]	2.91	1.81	1.94	7.92	3.54	1.40	7.32	1.69	1.76	10.66	11.88	12.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.31	0.42	0.42	0.57	0.59	0.32	0.82	0.68	0.68	0.75	0.91	0.91
d, Delay for Lane Group [s/veh]	32.15	20.35	20.49	36.73	23.58	19.15	41.67	22.38	22.46	47.92	38.14	38.56
Lane Group LOS	C	C	C	D	C	B	D	C	C	D	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.55	4.12	3.94	3.49	6.39	2.58	3.71	7.39	7.17	1.72	11.20	10.94
50th-Percentile Queue Length [ft/ln]	38.68	102.96	98.49	87.20	159.81	64.41	92.81	184.85	179.27	42.98	280.06	273.44
95th-Percentile Queue Length [veh/ln]	2.78	7.41	7.09	6.28	10.54	4.64	6.68	11.85	11.56	3.09	16.69	16.36
95th-Percentile Queue Length [ft/ln]	69.62	185.32	177.29	156.95	263.47	115.94	167.06	296.34	289.06	77.36	417.29	409.03

Movement, Approach, & Intersection Results

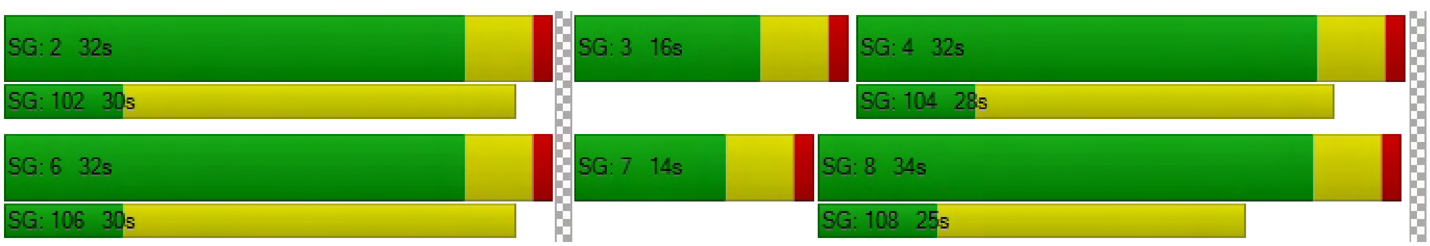
d_M, Delay for Movement [s/veh]	32.15	20.41	20.49	36.73	23.58	19.15	41.67	22.41	22.46	47.92	38.32	38.56
Movement LOS	C	C	C	D	C	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	21.86			25.30			25.42			38.98		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	28.92											
Intersection LOS	C											
Intersection V/C	0.714											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.533	2.782	2.956	3.052
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	675	675	725	675
d_b, Bicycle Delay [s]	17.56	17.56	16.26	17.56
I_b,int, Bicycle LOS Score for Intersection	2.110	2.852	2.506	2.508
Bicycle LOS	B	C	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Project West Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	10	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	21	0	0	0	0	0	0	0	64
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	21	0	0	0	10	0	0	1	64
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	0	0	0	3	0	0	0	17
Total Analysis Volume [veh/h]	0	0	0	23	0	0	0	11	0	0	1	70
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.75	9.43	8.35	8.85	9.33	8.55	7.33	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.07	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.84	1.84	1.84	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.84			8.85			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.94											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 8: Project East Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Base Volume Input [veh/h]	0	0	0	10	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	21	64	18
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	31	65	18
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	8	18	5
Total Analysis Volume [veh/h]	9	0	0	34	71	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.10	8.70	7.37	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.77	0.77	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.10		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.61					
Intersection LOS	A					

S2A Modular Manufacturing

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Scenario 7 Opening Year (Phase1) with Project
Report File: G:\...\PMOY1p.pdf
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.817	33.7	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.539	91.7	F
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	NB Left	0.609	13.8	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	EB Thru	0.986	81.5	F
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	NB Left	0.548	17.4	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	SB Left	0.931	49.8	D
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Thru	0.000	9.4	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.024	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: State Street / Esplanade Avenue

Control Type:	Signalized	Delay (sec / veh):	33.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.817

Intersection Setup

Name		State St			State St			Esplanade Ave			Esplanade Ave	
Approach		Northbound			Southbound			Eastbound			Westbound	
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		40.00			40.00			45.00			45.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No			No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name		State St			State St			Esplanade Ave			Esplanade Ave	
Base Volume Input [veh/h]	90	571	166	214	636	93	110	498	84	122	498	145
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	54	130	46	10	124	14	14	16	48	41	17	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	148	724	219	233	786	111	128	534	135	168	535	161
Peak Hour Factor	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	204	62	66	222	31	36	151	38	47	151	45
Total Analysis Volume [veh/h]	167	817	247	263	887	125	145	603	152	190	604	182
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	12	30	0	11	32	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	22	0	0	23	0	0	23	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	7	32	32	44	32	32	32	20	20	32	20	20
g / C, Green / Cycle	0.08	0.37	0.37	0.51	0.37	0.37	0.37	0.24	0.24	0.37	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.09	0.29	0.29	0.32	0.27	0.27	0.13	0.21	0.21	0.18	0.17	0.11
s, saturation flow rate [veh/h]	1810	1900	1751	834	1900	1819	1113	1900	1770	1036	3618	1615
c, Capacity [veh/h]	152	703	647	414	703	673	405	455	424	364	867	387
d1, Uniform Delay [s]	39.13	23.91	23.97	16.94	23.29	23.32	19.75	31.09	31.10	21.30	29.65	27.83
k, delay calibration	0.11	0.50	0.50	0.36	0.50	0.50	0.11	0.13	0.13	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	63.93	8.63	9.52	5.23	6.70	7.09	0.53	5.87	6.28	1.16	1.02	0.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	1.10	0.79	0.79	0.64	0.73	0.74	0.36	0.86	0.86	0.52	0.70	0.47
d, Delay for Lane Group [s/veh]	103.05	32.55	33.49	22.17	29.99	30.41	20.28	36.96	37.38	22.46	30.67	28.72
Lane Group LOS	F	C	C	C	C	C	C	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.75	10.68	10.07	3.12	9.50	9.21	1.85	7.84	7.35	2.53	5.35	3.05
50th-Percentile Queue Length [ft/ln]	143.74	267.12	251.76	78.12	237.41	230.20	46.21	196.01	183.87	63.14	133.83	76.36
95th-Percentile Queue Length [veh/ln]	9.99	16.05	15.27	5.62	14.55	14.18	3.33	12.43	11.80	4.55	9.15	5.50
95th-Percentile Queue Length [ft/ln]	249.66	401.14	381.87	140.62	363.76	354.61	83.18	310.81	295.06	113.66	228.69	137.46

Movement, Approach, & Intersection Results

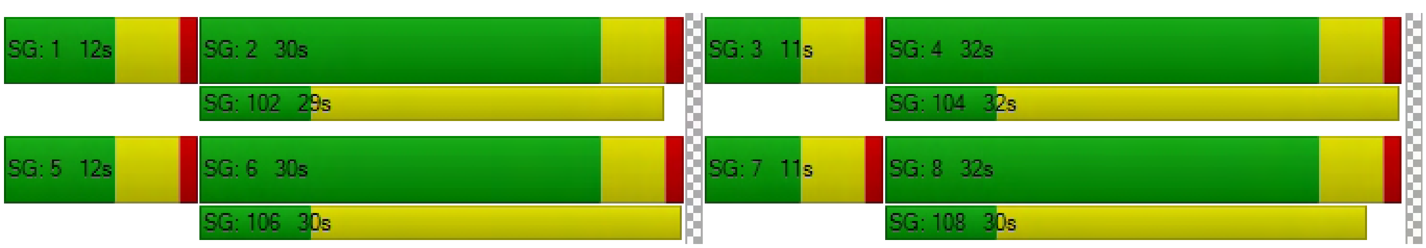
d_M, Delay for Movement [s/veh]	103.05	32.85	33.49	22.17	30.17	30.41	20.28	37.11	37.38	22.46	30.67	28.72
Movement LOS	F	C	C	C	C	C	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	42.50			28.54			34.44			28.71		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	33.71											
Intersection LOS	C											
Intersection V/C	0.817											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	3.007	2.980	2.822	3.106
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	588	588	635	635
d_b, Bicycle Delay [s]	21.18	21.18	19.79	19.79
I_b,int, Bicycle LOS Score for Intersection	2.575	2.611	2.302	2.365
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	91.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.539

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	4	818	807	6	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	193	195	15	32	36
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	1044	1035	21	37	41
Peak Hour Factor	0.9153	0.9153	0.9153	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	285	283	6	10	11
Total Analysis Volume [veh/h]	24	1141	1131	23	40	45
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.01	0.01	0.00	0.54	0.10
d_M, Delay for Movement [s/veh]	11.11	0.00	0.00	0.00	91.72	50.93
Movement LOS	B	A	A	A	F	F
95th-Percentile Queue Length [veh/ln]	0.12	0.00	0.00	0.00	3.37	3.37
95th-Percentile Queue Length [ft/ln]	3.05	0.00	0.00	0.00	84.31	84.31
d_A, Approach Delay [s/veh]	0.23		0.00		70.13	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	2.59					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: State Street / Fruitvale Avenue

Control Type:	Signalized	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.609

Intersection Setup

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		40.00			40.00			40.00			40.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No			No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Base Volume Input [veh/h]	50	741	23	14	764	44	45	0	49	43	27	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	199	0	0	212	19	12	11	9	0	13	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	970	24	15	1007	65	59	11	60	45	41	27
Peak Hour Factor	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	276	7	4	287	19	17	3	17	13	12	8
Total Analysis Volume [veh/h]	76	1105	27	17	1147	74	67	13	68	51	47	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	36	0	12	33	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	23	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	42	42	1	39	39	12	12	12
g / C, Green / Cycle	0.06	0.60	0.60	0.02	0.56	0.56	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.30	0.30	0.01	0.32	0.33	0.14	0.07	0.02
s, saturation flow rate [veh/h]	1810	1900	1884	1810	1900	1860	1073	1441	1615
c, Capacity [veh/h]	101	1137	1128	38	1071	1048	253	318	269
d1, Uniform Delay [s]	32.59	8.05	8.05	33.90	9.88	9.88	28.88	25.78	24.83
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.53	1.57	1.58	8.01	2.25	2.31	2.14	0.54	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.50	0.50	0.45	0.58	0.58	0.58	0.31	0.12
d, Delay for Lane Group [s/veh]	43.12	9.62	9.64	41.90	12.13	12.19	31.02	26.33	25.02
Lane Group LOS	D	A	A	D	B	B	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.49	4.12	4.09	0.35	5.37	5.29	2.42	1.39	0.42
50th-Percentile Queue Length [ft/ln]	37.23	103.03	102.34	8.86	134.34	132.18	60.43	34.67	10.52
95th-Percentile Queue Length [veh/ln]	2.68	7.42	7.37	0.64	9.18	9.06	4.35	2.50	0.76
95th-Percentile Queue Length [ft/ln]	67.01	185.45	184.22	15.94	229.39	226.46	108.77	62.40	18.94

Movement, Approach, & Intersection Results

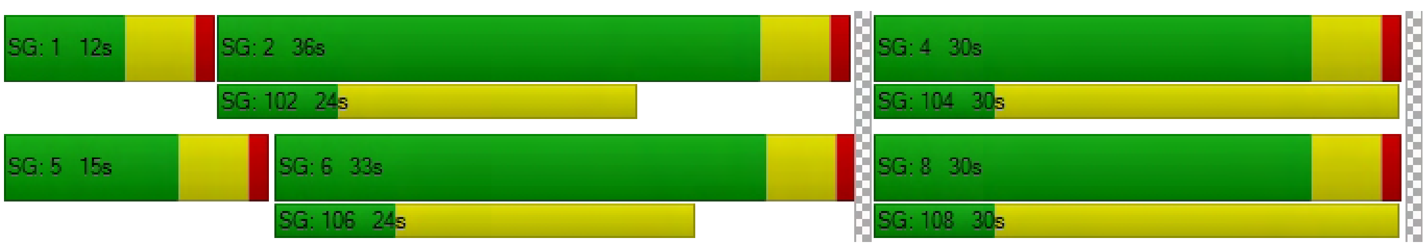
d_M, Delay for Movement [s/veh]	43.12	9.63	9.64	41.90	12.16	12.19	31.02	31.02	31.02	26.33	26.33	25.02
Movement LOS	D	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.74			12.57			31.02			26.01		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.84											
Intersection LOS	B											
Intersection V/C	0.609											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	3.048	3.063	1.925	2.007
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	886	800	714	714
d_b, Bicycle Delay [s]	10.86	12.60	14.46	14.46
I_b,int, Bicycle LOS Score for Intersection	2.556	2.581	1.804	1.772
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	81.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.986

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	29	612	76	127	694	98	63	248	33	52	222	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	119	6	9	193	19	91	57	17	55	9	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	756	85	141	915	121	157	315	51	109	240	121
Peak Hour Factor	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	208	23	39	252	33	43	87	14	30	66	33
Total Analysis Volume [veh/h]	53	833	94	155	1008	133	173	347	56	120	264	133
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	16	37	0	16	37	0	0	37	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	5	32	32	11	39	39	32	25	25
g / C, Green / Cycle	0.04	0.27	0.27	0.09	0.32	0.32	0.27	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.03	0.25	0.25	0.09	0.31	0.31	0.31	0.21	0.08
s, saturation flow rate [veh/h]	1810	1900	1833	1810	1900	1824	1841	1871	1615
c, Capacity [veh/h]	70	509	491	167	610	585	488	390	337
d1, Uniform Delay [s]	57.13	42.83	42.83	54.11	39.86	39.94	44.12	47.34	41.00
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.30	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.86	25.43	26.07	19.06	26.42	27.90	100.58	31.95	0.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.93	0.93	0.93	0.95	0.96	1.18	0.99	0.40
d, Delay for Lane Group [s/veh]	71.99	68.26	68.90	73.17	66.28	67.84	144.70	79.30	41.76
Lane Group LOS	E	E	E	E	E	E	F	E	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.88	17.12	16.60	5.45	20.64	20.15	27.68	14.60	3.41
50th-Percentile Queue Length [ft/ln]	47.09	427.95	415.09	136.26	515.92	503.68	691.92	365.04	85.31
95th-Percentile Queue Length [veh/ln]	3.39	23.90	23.29	9.28	28.09	27.51	39.96	20.87	6.14
95th-Percentile Queue Length [ft/ln]	84.76	597.59	582.15	231.98	702.17	687.71	998.99	521.71	153.56

Movement, Approach, & Intersection Results

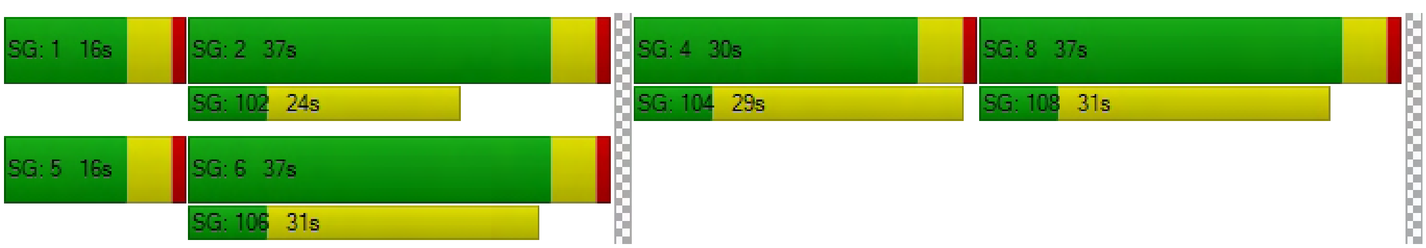
d_M, Delay for Movement [s/veh]	71.99	68.54	68.90	73.17	66.95	67.84	144.70	144.70	144.70	79.30	79.30	41.76
Movement LOS	E	E	E	E	E	E	F	F	F	E	E	D
d_A, Approach Delay [s/veh]		68.76			67.78			144.70			69.64	
Approach LOS		E			E			F			E	
d_I, Intersection Delay [s/veh]						81.50						
Intersection LOS						F						
Intersection V/C						0.986						

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
I_p,int, Pedestrian LOS Score for Intersection	2.818	2.994	2.396	2.436
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	533	533	417
d_b, Bicycle Delay [s]	32.27	32.27	32.27	37.60
I_b,int, Bicycle LOS Score for Intersection	2.368	2.629	2.510	2.413
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: State Street / Devonshire Avenue

Control Type:	Signalized	Delay (sec / veh):	17.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.548

Intersection Setup

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Base Volume Input [veh/h]	47	620	7	40	655	71	83	100	62	5	74	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	320	11	2	305	3	1	1	10	8	1	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	965	18	44	986	77	87	105	75	13	78	36
Peak Hour Factor	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	255	5	12	261	20	23	28	20	3	21	10
Total Analysis Volume [veh/h]	66	1020	19	47	1043	81	92	111	79	14	82	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	25	0	14	28	0	10	31	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	21	0	0	23	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	4	45	45	3	44	44	17	11	17	8	8
g / C, Green / Cycle	0.05	0.56	0.56	0.04	0.55	0.55	0.22	0.14	0.22	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.27	0.03	0.29	0.05	0.06	0.11	0.01	0.04	0.02
s, saturation flow rate [veh/h]	1810	1900	1888	1810	3618	1615	1549	1770	1366	1900	1615
c, Capacity [veh/h]	90	1053	1046	76	1977	883	422	241	309	180	153
d1, Uniform Delay [s]	37.60	10.99	10.99	37.79	11.59	8.69	25.98	33.53	25.21	34.36	33.67
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.93	1.66	1.68	7.84	1.01	0.21	0.26	5.66	0.06	1.79	0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.50	0.50	0.62	0.53	0.09	0.22	0.79	0.05	0.46	0.25
d, Delay for Lane Group [s/veh]	48.53	12.66	12.67	45.63	12.61	8.89	26.24	39.19	25.27	36.15	34.50
Lane Group LOS	D	B	B	D	B	A	C	D	C	D	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.49	5.19	5.16	1.03	5.20	0.62	1.44	3.86	0.21	1.57	0.71
50th-Percentile Queue Length [ft/ln]	37.35	129.65	128.91	25.86	129.91	15.57	36.07	96.51	5.27	39.26	17.70
95th-Percentile Queue Length [veh/ln]	2.69	8.92	8.88	1.86	8.93	1.12	2.60	6.95	0.38	2.83	1.27
95th-Percentile Queue Length [ft/ln]	67.24	223.01	222.02	46.55	223.37	28.03	64.93	173.71	9.49	70.68	31.86

Movement, Approach, & Intersection Results

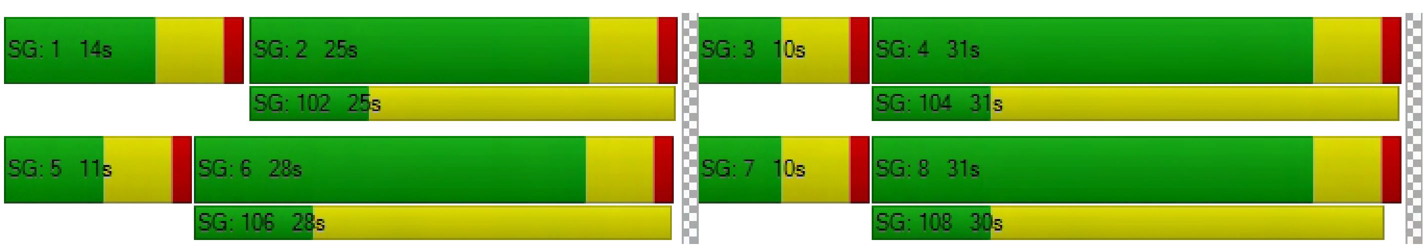
d_M, Delay for Movement [s/veh]	48.53	12.66	12.67	45.63	12.61	8.89	26.24	39.19	39.19	25.27	36.15	34.50
Movement LOS	D	B	B	D	B	A	C	D	D	C	D	C
d_A, Approach Delay [s/veh]	14.81			13.68			34.97			34.55		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	17.41											
Intersection LOS	B											
Intersection V/C	0.548											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.935	3.034	2.100	2.200
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	575	650	650
d_b, Bicycle Delay [s]	22.50	20.31	18.23	18.23
I_b,int, Bicycle LOS Score for Intersection	2.471	2.526	2.025	1.781
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	49.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.931

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	92	134	43	76	124	123	132	60	76	37	55	78
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	498	120	228	467	303	271	1173	136	136	1119	162
Peak Hour Factor	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	136	33	62	128	83	74	321	37	37	306	44
Total Analysis Volume [veh/h]	156	545	131	249	511	331	296	1283	149	149	1224	177
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	37	0	0	37	0	11	37	0	11	37	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	32	32	32	32	32	32	43	32	32	43	32	32
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.38	0.51	0.38	0.38	0.51	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.17	0.18	0.18	0.32	0.27	0.20	0.43	0.38	0.39	0.22	0.37	0.38
s, saturation flow rate [veh/h]	903	1900	1774	775	1900	1615	689	1900	1832	668	1900	1818
c, Capacity [veh/h]	202	718	670	254	718	610	329	721	695	322	713	682
d1, Uniform Delay [s]	38.33	20.17	20.17	36.21	22.51	20.70	24.17	26.38	26.38	18.18	26.51	26.56
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.43	0.45	0.14	0.43	0.44
I, Upstream Filtering 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
d2, Incremental Delay [s]	24.23	2.35	2.53	51.98	5.93	3.44	29.44	31.42	38.26	1.35	30.47	35.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.77	0.49	0.49	0.98	0.71	0.54	0.90	1.00	1.02	0.46	1.00	1.01
d, Delay for Lane Group [s/veh]	62.56	22.52	22.70	88.19	28.44	24.14	53.61	57.80	64.65	19.53	56.98	61.96
Lane Group LOS	E	C	C	F	C	C	D	F	F	B	E	F
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.52	5.34	5.02	8.71	9.13	5.32	5.73	19.67	20.29	1.51	19.23	19.40
50th-Percentile Queue Length [ft/ln]	113.12	133.39	125.56	217.78	228.23	132.92	143.17	491.69	507.18	37.81	480.86	484.95
95th-Percentile Queue Length [veh/ln]	8.01	9.12	8.70	13.55	14.08	9.10	9.65	26.96	28.12	2.72	26.43	26.85
95th-Percentile Queue Length [ft/ln]	200.34	228.09	217.45	338.78	352.11	227.46	241.29	673.97	703.01	68.06	660.68	671.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.56	22.58	22.70	88.19	28.44	24.14	53.61	60.80	64.65	19.53	59.07	61.96
Movement LOS	E	C	C	F	C	C	D	E	E	B	E	E
d_A, Approach Delay [s/veh]	30.10			40.77			59.90			55.60		
Approach LOS	C			D			E			E		
d_I, Intersection Delay [s/veh]	49.84											
Intersection LOS	D											
Intersection V/C	0.931											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.747	3.074	3.301	3.382
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	753	753	753	753
d_b, Bicycle Delay [s]	16.52	16.52	16.52	16.52
I_b,int, Bicycle LOS Score for Intersection	2.246	3.360	2.985	2.838
Bicycle LOS	B	C	C	C

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Project West Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	10	0	0	10	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	48	0	0	0	0	0	0	0	23
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	48	0	0	0	10	0	0	10	23
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	13	0	0	0	3	0	0	3	6
Total Analysis Volume [veh/h]	0	0	0	52	0	0	0	11	0	0	11	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.68	9.24	8.35	8.89	9.38	8.61	7.27	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.17	0.17	0.17	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	4.21	4.21	4.21	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.76			8.89			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.67											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 8: Project East Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Base Volume Input [veh/h]	0	0	0	10	10	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	0	0	48	23	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	0	0	58	33	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	0	16	9	3
Total Analysis Volume [veh/h]	22	0	0	63	36	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.11	8.58	7.29	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.88	1.88	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.11		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.52					
Intersection LOS	A					

COMPLETION YEAR (2024) PLUS PROJECT (EAGP)

S2A Modular Manufacturing

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Report File: G:\...\AMEAG2p.pdf

Scenario 5 Opening Year (Phase2) (EAGp)
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.577	25.0	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.416	63.3	F
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.536	13.1	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.764	40.3	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	SB Left	0.431	17.1	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Left	0.645	27.1	C
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	NB Thru	0.000	10.0	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.017	9.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: State Street / Esplanade Avenue

Control Type:	Signalized	Delay (sec / veh):	25.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.577

Intersection Setup

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Base Volume Input [veh/h]	41	503	78	170	567	93	65	347	66	97	427	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	10	6	0	35	0	0	0	33	22	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	57	565	92	188	661	103	72	383	106	129	471	177
Peak Hour Factor	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	155	25	51	181	28	20	105	29	35	129	48
Total Analysis Volume [veh/h]	62	618	101	206	723	113	79	419	116	141	515	194
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	13	30	0	10	32	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	22	0	0	23	0	0	23	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	4	38	38	50	41	41	25	15	15	25	16	16
g / C, Green / Cycle	0.05	0.45	0.45	0.58	0.48	0.48	0.30	0.18	0.18	0.30	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.03	0.19	0.19	0.22	0.23	0.23	0.07	0.15	0.15	0.12	0.14	0.12
s, saturation flow rate [veh/h]	1810	1900	1808	952	1900	1811	1161	1900	1761	1177	3618	1615
c, Capacity [veh/h]	83	850	809	581	911	869	352	342	317	354	683	305
d1, Uniform Delay [s]	40.10	16.12	16.13	9.41	14.87	14.87	22.77	33.49	33.54	23.74	32.64	31.82
k, delay calibration	0.11	0.50	0.50	0.15	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	12.34	1.61	1.69	0.52	1.73	1.82	0.32	4.55	5.13	0.73	1.72	2.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.75	0.43	0.43	0.35	0.47	0.47	0.22	0.81	0.82	0.40	0.75	0.64
d, Delay for Lane Group [s/veh]	52.45	17.73	17.83	9.94	16.60	16.69	23.09	38.04	38.68	24.47	34.36	34.02
Lane Group LOS	D	B	B	A	B	B	C	D	D	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.52	4.81	4.60	1.59	5.38	5.15	1.11	5.55	5.25	2.06	4.85	3.63
50th-Percentile Queue Length [ft/ln]	37.96	120.16	115.09	39.71	134.38	128.67	27.69	138.66	131.18	51.60	121.19	90.66
95th-Percentile Queue Length [veh/ln]	2.73	8.40	8.12	2.86	9.18	8.87	1.99	9.41	9.00	3.72	8.46	6.53
95th-Percentile Queue Length [ft/ln]	68.34	210.05	203.06	71.48	229.43	221.68	49.84	235.22	225.10	92.88	211.46	163.19

Movement, Approach, & Intersection Results

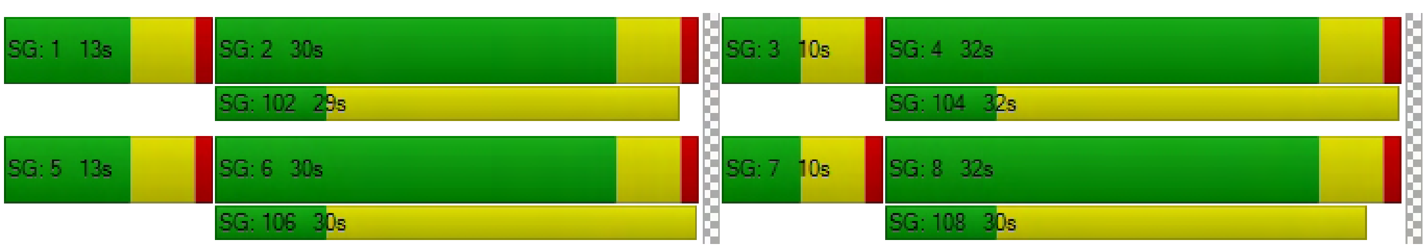
d_M, Delay for Movement [s/veh]	52.45	17.77	17.83	9.94	16.64	16.69	23.09	38.25	38.68	24.47	34.36	34.02
Movement LOS	D	B	B	A	B	B	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	20.53			15.32			36.38			32.64		
Approach LOS	C			B			D			C		
d_I, Intersection Delay [s/veh]	24.97											
Intersection LOS	C											
Intersection V/C	0.577											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.795	2.823	2.678	2.972
Crosswalk LOS	C	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	588	588	635	635
d_b, Bicycle Delay [s]	21.18	21.18	19.79	19.79
I_b,int, Bicycle LOS Score for Intersection	2.204	2.419	2.066	2.261
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	63.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.416

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	0	629	674	1	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	96	0	0	90	28	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	694	744	91	34	33
Peak Hour Factor	0.8702	0.8702	0.8702	0.8702	0.8702	0.8702
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	199	214	26	10	9
Total Analysis Volume [veh/h]	110	798	855	105	39	38
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.01	0.01	0.00	0.42	0.07
d_M, Delay for Movement [s/veh]	10.85	0.00	0.00	0.00	63.33	31.60
Movement LOS	B	A	A	A	F	D
95th-Percentile Queue Length [veh/ln]	0.53	0.00	0.00	0.00	2.32	2.32
95th-Percentile Queue Length [ft/ln]	13.33	0.00	0.00	0.00	57.96	57.96
d_A, Approach Delay [s/veh]	1.31		0.00		47.67	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	2.50					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: State Street / Fruitvale Avenue

Control Type:	Signalized	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.536

Intersection Setup

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Base Volume Input [veh/h]	31	604	115	65	571	41	35	37	54	23	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	92	0	0	26	1	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	759	127	72	656	46	43	41	60	25	3	13
Peak Hour Factor	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	221	37	21	191	13	13	12	17	7	1	4
Total Analysis Volume [veh/h]	40	883	148	84	764	54	50	48	70	29	3	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	28	0	12	27	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	23	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	41	41	4	42	42	10	10	10
g / C, Green / Cycle	0.04	0.58	0.58	0.06	0.60	0.60	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.02	0.28	0.28	0.05	0.22	0.22	0.12	0.03	0.01
s, saturation flow rate [veh/h]	1810	1900	1806	1810	1900	1856	1409	978	1615
c, Capacity [veh/h]	71	1102	1047	109	1142	1116	272	240	235
d1, Uniform Delay [s]	33.06	8.56	8.57	32.41	7.12	7.12	29.30	26.29	25.81
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.91	1.50	1.58	10.63	0.89	0.91	2.29	0.25	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.48	0.48	0.77	0.36	0.36	0.62	0.13	0.06
d, Delay for Lane Group [s/veh]	39.98	10.06	10.14	43.05	8.01	8.03	31.59	26.54	25.92
Lane Group LOS	D	B	B	D	A	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.76	4.01	3.83	1.64	2.63	2.57	2.73	0.45	0.21
50th-Percentile Queue Length [ft/ln]	19.10	100.16	95.84	40.98	65.66	64.32	68.22	11.35	5.21
95th-Percentile Queue Length [veh/ln]	1.38	7.21	6.90	2.95	4.73	4.63	4.91	0.82	0.37
95th-Percentile Queue Length [ft/ln]	34.38	180.28	172.51	73.77	118.19	115.78	122.80	20.43	9.37

Movement, Approach, & Intersection Results

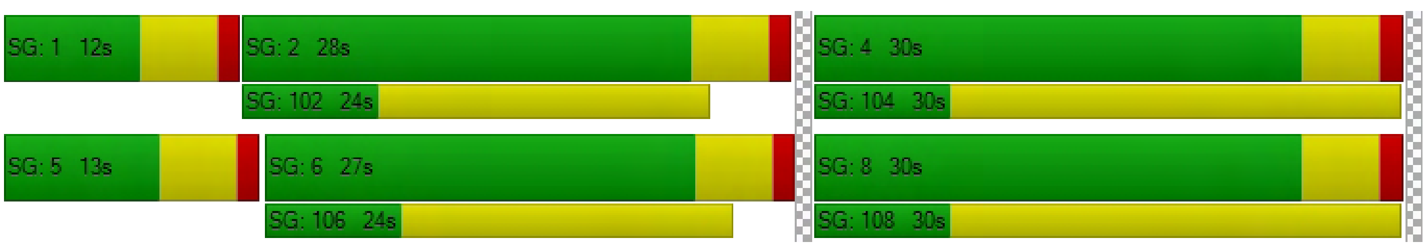
d_M, Delay for Movement [s/veh]	39.98	10.09	10.14	43.05	8.02	8.03	31.59	31.59	31.59	26.54	26.54	25.92
Movement LOS	D	B	B	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.21			11.28			31.59			26.34		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.13											
Intersection LOS	B											
Intersection V/C	0.536											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.899	2.911	1.873	2.068
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	657	629	714	714
d_b, Bicycle Delay [s]	15.78	16.46	14.46	14.46
I_b,int, Bicycle LOS Score for Intersection	2.443	2.304	1.837	1.637
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	40.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.764

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	24	531	63	110	516	34	69	176	43	22	187	138
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	74	0	3	21	2	7	0	0	0	0	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	660	70	124	591	40	83	194	47	24	206	163
Peak Hour Factor	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	192	20	36	172	12	24	56	14	7	60	47
Total Analysis Volume [veh/h]	30	767	81	144	687	46	96	225	55	28	239	189
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	30	0	15	30	0	0	35	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	37	37	10	44	44	25	18	18
g / C, Green / Cycle	0.03	0.34	0.34	0.09	0.40	0.40	0.23	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.23	0.08	0.20	0.20	0.21	0.14	0.12
s, saturation flow rate [veh/h]	1810	1900	1837	1810	1900	1858	1829	1890	1615
c, Capacity [veh/h]	51	640	619	166	760	743	414	310	265
d1, Uniform Delay [s]	52.86	31.32	31.32	49.37	24.62	24.62	41.50	44.83	43.60
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.15	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.15	5.59	5.78	12.84	2.23	2.28	10.38	7.06	3.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.67	0.67	0.87	0.49	0.49	0.91	0.86	0.71
d, Delay for Lane Group [s/veh]	63.01	36.91	37.10	62.21	26.85	26.90	51.88	51.89	47.18
Lane Group LOS	E	D	D	E	C	C	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.96	10.67	10.36	4.42	7.36	7.21	10.81	7.52	5.02
50th-Percentile Queue Length [ft/ln]	24.08	266.87	258.94	110.38	184.04	180.32	270.37	188.02	125.56
95th-Percentile Queue Length [veh/ln]	1.73	16.03	15.64	7.86	11.81	11.62	16.21	12.02	8.70
95th-Percentile Queue Length [ft/ln]	43.35	400.83	390.89	196.53	295.29	290.43	405.20	300.46	217.45

Movement, Approach, & Intersection Results

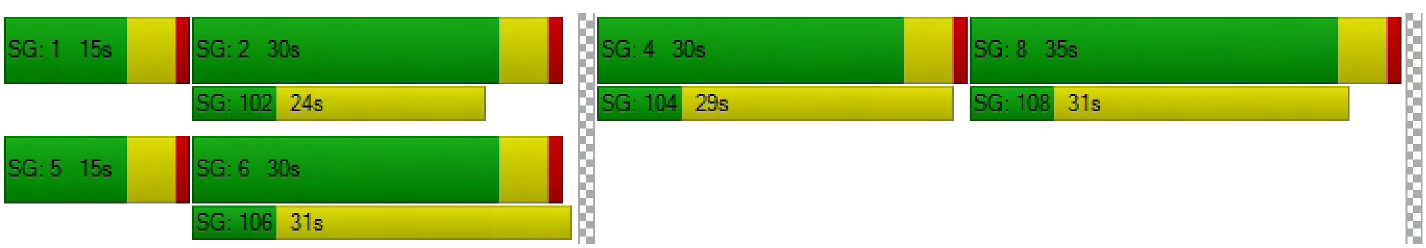
d_M, Delay for Movement [s/veh]	63.01	36.99	37.10	62.21	26.87	26.90	51.88	51.88	51.88	51.89	51.89	47.18
Movement LOS	E	D	D	E	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]		37.89			32.68			51.88			49.94	
Approach LOS		D			C			D			D	
d_I, Intersection Delay [s/veh]	40.28											
Intersection LOS	D											
Intersection V/C	0.764											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	44.55	44.55
I_p,int, Pedestrian LOS Score for Intersection	2.730	2.880	2.174	2.342
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	455	545	455
d_b, Bicycle Delay [s]	32.84	32.84	29.09	32.84
I_b,int, Bicycle LOS Score for Intersection	2.284	2.283	2.180	2.312
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: State Street / Devonshire Avenue

Control Type:	Signalized	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.431

Intersection Setup

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Base Volume Input [veh/h]	19	488	17	52	497	65	71	101	48	12	46	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	66	0	1	19	1	4	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	605	19	58	568	73	82	112	53	13	51	37
Peak Hour Factor	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	177	6	17	166	21	24	33	15	4	15	11
Total Analysis Volume [veh/h]	25	707	22	68	664	85	96	131	62	15	60	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	10	31	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	21	0	0	23	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	2	44	44	4	46	46	17	11	17	7	7
g / C, Green / Cycle	0.03	0.55	0.55	0.05	0.57	0.57	0.22	0.14	0.22	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.19	0.19	0.04	0.18	0.05	0.06	0.11	0.01	0.03	0.03
s, saturation flow rate [veh/h]	1810	1900	1880	1810	3618	1615	1567	1798	1365	1900	1615
c, Capacity [veh/h]	51	1035	1024	91	2050	915	442	245	311	178	151
d1, Uniform Delay [s]	38.41	10.31	10.31	37.59	9.23	7.95	25.93	33.52	25.14	34.03	33.85
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.02	0.95	0.96	11.37	0.42	0.20	0.24	5.54	0.06	1.11	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.35	0.35	0.75	0.32	0.09	0.22	0.79	0.05	0.34	0.28
d, Delay for Lane Group [s/veh]	45.43	11.26	11.27	48.96	9.65	8.15	26.17	39.05	25.21	35.13	34.87
Lane Group LOS	D	B	B	D	A	A	C	D	C	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.56	3.34	3.31	1.55	2.67	0.61	1.50	3.91	0.23	1.13	0.81
50th-Percentile Queue Length [ft/ln]	14.10	83.46	82.70	38.67	66.65	15.33	37.62	97.81	5.64	28.17	20.18
95th-Percentile Queue Length [veh/ln]	1.02	6.01	5.95	2.78	4.80	1.10	2.71	7.04	0.41	2.03	1.45
95th-Percentile Queue Length [ft/ln]	25.38	150.23	148.87	69.60	119.98	27.59	67.72	176.06	10.15	50.71	36.33

Movement, Approach, & Intersection Results

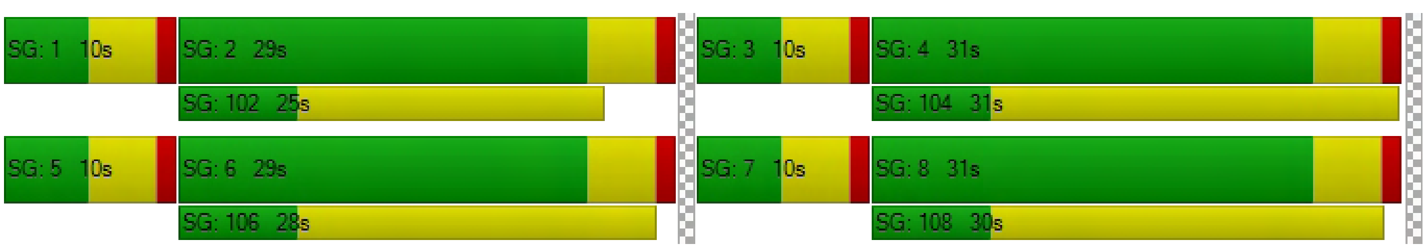
d_M, Delay for Movement [s/veh]	45.43	11.26	11.27	48.96	9.65	8.15	26.17	39.05	39.05	25.21	35.13	34.87
Movement LOS	D	B	B	D	A	A	C	D	D	C	D	C
d_A, Approach Delay [s/veh]	12.40			12.76			34.77			33.78		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	17.09											
Intersection LOS	B											
Intersection V/C	0.431											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.774	2.912	2.083	2.207
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	650	650
d_b, Bicycle Delay [s]	19.60	19.60	18.23	18.23
I_b,int, Bicycle LOS Score for Intersection	2.182	2.234	2.036	1.754
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	27.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	35	0	3	10	6	21	0	0	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	424	68	110	321	99	119	766	38	49	849	61
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	122	20	32	92	28	34	220	11	14	244	18
Total Analysis Volume [veh/h]	46	487	78	126	369	114	137	880	44	56	976	70
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	16	34	0	14	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	32	32	32	32	32	32	8	29	29	4	25	25
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.10	0.36	0.36	0.05	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.04	0.15	0.15	0.15	0.19	0.07	0.08	0.25	0.25	0.03	0.28	0.28
s, saturation flow rate [veh/h]	1029	1900	1810	859	1900	1615	1810	1900	1868	1810	1900	1856
c, Capacity [veh/h]	336	767	730	326	767	652	174	690	679	83	594	581
d1, Uniform Delay [s]	24.29	16.80	16.82	24.67	17.68	15.33	35.38	21.51	21.51	37.62	26.21	26.21
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.13	0.13	0.11	0.24	0.24
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.85	1.41	1.49	3.43	2.16	0.58	7.58	1.39	1.42	9.11	9.92	10.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.14	0.38	0.38	0.39	0.48	0.17	0.79	0.67	0.67	0.67	0.89	0.89
d, Delay for Lane Group [s/veh]	25.14	18.21	18.31	28.10	19.84	15.92	42.96	22.90	22.93	46.73	36.13	36.37
Lane Group LOS	C	B	B	C	B	B	D	C	C	D	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.73	3.67	3.54	2.20	5.00	1.32	2.89	7.08	6.97	1.26	10.56	10.35
50th-Percentile Queue Length [ft/ln]	18.33	91.85	88.56	54.95	125.08	33.07	72.15	176.97	174.17	31.44	263.91	258.83
95th-Percentile Queue Length [veh/ln]	1.32	6.61	6.38	3.96	8.67	2.38	5.19	11.44	11.30	2.26	15.88	15.63
95th-Percentile Queue Length [ft/ln]	33.00	165.33	159.40	98.91	216.79	59.53	129.87	286.06	282.39	56.58	397.12	390.76

Movement, Approach, & Intersection Results

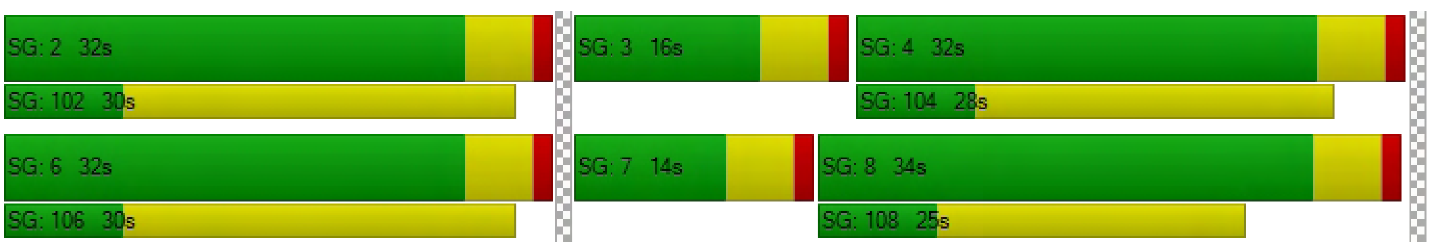
d_M, Delay for Movement [s/veh]	25.14	18.25	18.31	28.10	19.84	15.92	42.96	22.91	22.93	46.73	36.24	36.37
Movement LOS	C	B	B	C	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]		18.78			20.82			25.50			36.78	
Approach LOS		B			C			C			D	
d_I, Intersection Delay [s/veh]	27.12											
Intersection LOS	C											
Intersection V/C	0.645											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.475	2.729	2.858	2.970
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	675	675	725	675
d_b, Bicycle Delay [s]	17.56	17.56	16.26	17.56
I_b,int, Bicycle LOS Score for Intersection	2.064	2.564	2.435	2.469
Bicycle LOS	B	B	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Project West Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	10	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	43	0	0	0	0	0	0	0	148
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	43	0	0	0	11	0	0	1	148
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	12	0	0	0	3	0	0	0	40
Total Analysis Volume [veh/h]	0	0	0	47	0	0	0	12	0	0	1	161
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.02	9.98	8.35	9.25	9.72	8.88	7.52	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.17	0.17	0.17	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	4.15	4.15	4.15	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.12			9.25			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.97											
Intersection LOS	A											

Intersection Level Of Service Report

Intersection 8: Project East Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Base Volume Input [veh/h]	0	0	0	10	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	43	148	38
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	0	54	149	38
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	15	40	10
Total Analysis Volume [veh/h]	13	0	0	59	162	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.88	9.25	7.61	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.32	1.32	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.88		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.47					
Intersection LOS	A					

S2A Modular Manufacturing

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Report File: G:\...\PMEAG2p.pdf

Scenario 5 Opening Year (Phase2) (EAGp)
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.767	30.7	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.886	160.4	F
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	NB Left	0.539	12.3	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	SB Left	0.855	51.3	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	NB Left	0.454	17.1	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Right	0.735	33.9	C
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Thru	0.000	9.8	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.062	9.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: State Street / Esplanade Avenue

Control Type:	Signalized	Delay (sec / veh):	30.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

Intersection Setup

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Base Volume Input [veh/h]	90	571	166	214	636	93	110	498	84	122	498	145
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	25	19	0	11	0	0	0	12	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	127	655	202	236	713	103	121	550	105	144	550	160
Peak Hour Factor	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	185	57	67	201	29	34	155	30	41	155	45
Total Analysis Volume [veh/h]	143	740	228	266	805	116	137	621	119	163	621	181
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	18	38	0	12	30	0	11	32	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	22	0	0	23	0	0	23	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	8	31	31	43	29	29	32	20	20	32	21	21
g / C, Green / Cycle	0.10	0.36	0.36	0.50	0.35	0.35	0.38	0.24	0.24	0.38	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.08	0.27	0.27	0.30	0.25	0.25	0.13	0.20	0.20	0.15	0.17	0.11
s, saturation flow rate [veh/h]	1810	1900	1748	877	1900	1817	1095	1900	1795	1073	3618	1615
c, Capacity [veh/h]	181	687	632	429	655	626	414	447	423	392	901	402
d1, Uniform Delay [s]	37.46	23.64	23.65	16.52	24.33	24.35	19.03	31.14	31.15	20.11	29.00	27.06
k, delay calibration	0.11	0.50	0.50	0.33	0.50	0.50	0.11	0.12	0.12	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	7.43	6.82	7.42	4.39	6.66	7.00	0.46	5.16	5.46	0.70	0.95	0.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.79	0.73	0.73	0.62	0.72	0.72	0.33	0.85	0.85	0.42	0.69	0.45
d, Delay for Lane Group [s/veh]	44.88	30.46	31.07	20.91	30.99	31.35	19.50	36.30	36.61	20.81	29.95	27.85
Lane Group LOS	D	C	C	C	C	C	B	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.16	9.34	8.72	3.14	8.79	8.49	1.70	7.54	7.17	2.07	5.44	2.98
50th-Percentile Queue Length [ft/ln]	79.04	233.54	217.95	78.47	219.71	212.13	42.58	188.61	179.21	51.77	136.04	74.57
95th-Percentile Queue Length [veh/ln]	5.69	14.35	13.56	5.65	13.65	13.26	3.07	12.05	11.56	3.73	9.27	5.37
95th-Percentile Queue Length [ft/ln]	142.27	358.85	339.00	141.24	341.25	331.56	76.65	301.23	288.99	93.18	231.69	134.22

Movement, Approach, & Intersection Results

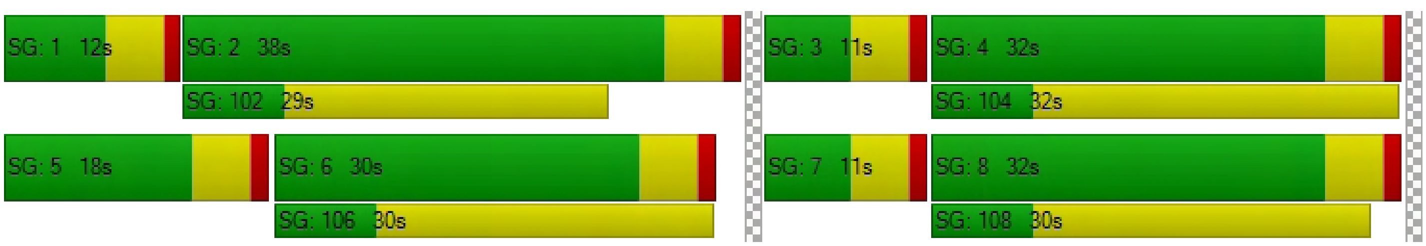
d_M, Delay for Movement [s/veh]	44.88	30.65	31.07	20.91	31.14	31.35	19.50	36.42	36.61	20.81	29.95	27.85
Movement LOS	D	C	C	C	C	C	B	D	D	C	C	C
d_A, Approach Delay [s/veh]		32.57			28.87			33.80			28.01	
Approach LOS		C			C			C			C	
d_I, Intersection Delay [s/veh]	30.71											
Intersection LOS	C											
Intersection V/C	0.767											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.928	2.933	2.810	3.103
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	776	588	635	635
d_b, Bicycle Delay [s]	15.91	21.18	19.79	19.79
I_b,int, Bicycle LOS Score for Intersection	2.476	2.539	2.283	2.356
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	160.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.886

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	4	818	807	6	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	0	32	72	79
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	903	891	39	78	85
Peak Hour Factor	0.9153	0.9153	0.9153	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	247	243	11	21	23
Total Analysis Volume [veh/h]	44	987	973	43	85	93
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.01	0.00	0.89	0.18
d_M, Delay for Movement [s/veh]	10.57	0.00	0.00	0.00	160.43	129.88
Movement LOS	B	A	A	A	F	F
95th-Percentile Queue Length [veh/ln]	0.20	0.00	0.00	0.00	8.90	8.90
95th-Percentile Queue Length [ft/ln]	5.09	0.00	0.00	0.00	222.40	222.40
d_A, Approach Delay [s/veh]	0.45		0.00		144.47	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	11.77					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: State Street / Fruitvale Avenue

Control Type:	Signalized	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.539

Intersection Setup

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Base Volume Input [veh/h]	50	741	23	14	764	44	45	0	49	43	27	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	34	0	0	75	4	2	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	55	852	25	15	919	53	52	0	54	47	30	29
Peak Hour Factor	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	243	7	4	262	15	15	0	15	13	9	8
Total Analysis Volume [veh/h]	63	971	28	17	1047	60	59	0	62	54	34	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	16	34	0	14	32	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	23	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	48	48	2	45	45	11	11	11
g / C, Green / Cycle	0.05	0.63	0.63	0.02	0.60	0.60	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.03	0.26	0.26	0.01	0.29	0.29	0.12	0.06	0.02
s, saturation flow rate [veh/h]	1810	1900	1881	1810	1900	1864	974	1397	1615
c, Capacity [veh/h]	90	1206	1194	37	1151	1129	213	280	234
d1, Uniform Delay [s]	35.13	6.81	6.81	36.33	8.26	8.26	31.94	29.00	28.02
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.59	1.06	1.07	8.33	1.47	1.50	2.39	0.64	0.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.42	0.42	0.45	0.49	0.49	0.57	0.31	0.14
d, Delay for Lane Group [s/veh]	44.72	7.87	7.88	44.66	9.73	9.76	34.33	29.63	28.29
Lane Group LOS	D	A	A	D	A	A	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.31	3.29	3.26	0.38	4.35	4.28	2.18	1.40	0.50
50th-Percentile Queue Length [ft/ln]	32.86	82.20	81.49	9.50	108.66	106.89	54.58	34.94	12.62
95th-Percentile Queue Length [veh/ln]	2.37	5.92	5.87	0.68	7.77	7.67	3.93	2.52	0.91
95th-Percentile Queue Length [ft/ln]	59.15	147.97	146.68	17.09	194.14	191.67	98.24	62.90	22.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.72	7.88	7.88	44.66	9.74	9.76	34.33	34.33	34.33	29.63	29.63	28.29
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	10.06			10.27			34.33			29.27		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	12.33											
Intersection LOS	B											
Intersection V/C	0.539											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	27.31	27.31	27.31	27.31
I_p,int, Pedestrian LOS Score for Intersection	3.002	3.001	1.885	2.002
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	773	720	667	667
d_b, Bicycle Delay [s]	14.11	15.36	16.67	16.67
I_b,int, Bicycle LOS Score for Intersection	2.436	2.487	1.759	1.759
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	51.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.855

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	29	612	76	127	694	98	63	248	33	52	222	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	0	13	53	9	4	0	0	0	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	700	84	153	819	117	74	274	36	57	245	130
Peak Hour Factor	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	193	23	42	226	32	20	75	10	16	67	36
Total Analysis Volume [veh/h]	35	771	93	169	902	129	82	302	40	63	270	143
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	30	0	15	35	0	0	35	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	31	31	10	38	38	27	22	22
g / C, Green / Cycle	0.03	0.28	0.28	0.09	0.34	0.34	0.25	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.23	0.09	0.28	0.28	0.23	0.18	0.09
s, saturation flow rate [veh/h]	1810	1900	1829	1810	1900	1818	1851	1882	1615
c, Capacity [veh/h]	56	537	517	166	652	624	459	370	317
d1, Uniform Delay [s]	52.73	36.90	36.90	50.02	32.87	32.90	40.38	43.20	39.01
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.26	0.18	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.94	13.17	13.63	37.76	10.35	10.88	16.62	12.39	1.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.82	0.82	1.02	0.81	0.81	0.92	0.90	0.45
d, Delay for Lane Group [s/veh]	63.67	50.07	50.53	87.78	43.22	43.77	57.00	55.59	40.01
Lane Group LOS	E	D	D	F	D	D	E	E	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.12	12.87	12.45	6.19	14.04	13.56	12.93	9.87	3.42
50th-Percentile Queue Length [ft/ln]	28.12	321.63	311.35	154.84	351.02	339.11	323.28	246.63	85.52
95th-Percentile Queue Length [veh/ln]	2.02	18.75	18.24	10.35	20.19	19.60	18.83	15.02	6.16
95th-Percentile Queue Length [ft/ln]	50.62	468.68	456.04	258.78	504.65	490.11	470.71	375.40	153.93

Movement, Approach, & Intersection Results

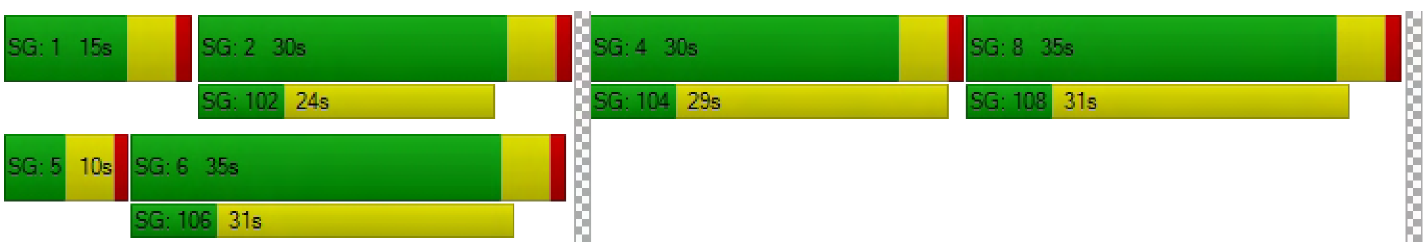
d_M, Delay for Movement [s/veh]	63.67	50.27	50.53	87.78	43.45	43.77	57.00	57.00	57.00	55.59	55.59	40.01
Movement LOS	E	D	D	F	D	D	E	E	E	E	E	D
d_A, Approach Delay [s/veh]		50.82			49.73			57.00			50.91	
Approach LOS		D			D			E			D	
d_I, Intersection Delay [s/veh]						51.27						
Intersection LOS						D						
Intersection V/C						0.855						

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	44.55	44.55
I_p,int, Pedestrian LOS Score for Intersection	2.772	2.938	2.282	2.400
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	455	545	545	455
d_b, Bicycle Delay [s]	32.84	29.09	29.09	32.84
I_b,int, Bicycle LOS Score for Intersection	2.301	2.550	2.259	2.345
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: State Street / Devonshire Avenue

Control Type:	Signalized	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.454

Intersection Setup

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Base Volume Input [veh/h]	47	620	7	40	655	71	83	100	62	5	74	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	4	45	4	2	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	705	8	48	768	82	94	110	68	6	82	40
Peak Hour Factor	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	186	2	13	203	22	25	29	18	2	22	11
Total Analysis Volume [veh/h]	55	745	8	51	812	87	99	116	72	6	87	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	27	0	13	28	0	10	31	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	21	0	0	23	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	4	45	45	3	45	45	16	11	16	6	6
g / C, Green / Cycle	0.04	0.56	0.56	0.04	0.56	0.56	0.21	0.13	0.21	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.20	0.20	0.03	0.22	0.05	0.06	0.11	0.00	0.05	0.03
s, saturation flow rate [veh/h]	1810	1900	1893	1810	3618	1615	1565	1780	1349	1900	1615
c, Capacity [veh/h]	83	1069	1065	80	2029	906	406	240	293	153	130
d1, Uniform Delay [s]	37.68	9.58	9.58	37.73	9.97	8.17	26.79	33.58	25.74	35.54	34.82
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.83	0.92	0.92	8.29	0.59	0.21	0.31	5.56	0.03	3.28	1.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.67	0.35	0.35	0.64	0.40	0.10	0.24	0.78	0.02	0.57	0.32
d, Delay for Lane Group [s/veh]	46.52	10.49	10.49	46.02	10.56	8.39	27.10	39.14	25.77	38.82	36.23
Lane Group LOS	D	B	B	D	B	A	C	D	C	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.22	3.26	3.25	1.13	3.51	0.64	1.59	3.82	0.09	1.74	0.81
50th-Percentile Queue Length [ft/ln]	30.48	81.54	81.27	28.14	87.80	16.02	39.64	95.39	2.28	43.61	20.25
95th-Percentile Queue Length [veh/ln]	2.19	5.87	5.85	2.03	6.32	1.15	2.85	6.87	0.16	3.14	1.46
95th-Percentile Queue Length [ft/ln]	54.86	146.78	146.29	50.65	158.05	28.84	71.36	171.70	4.11	78.49	36.46

Movement, Approach, & Intersection Results

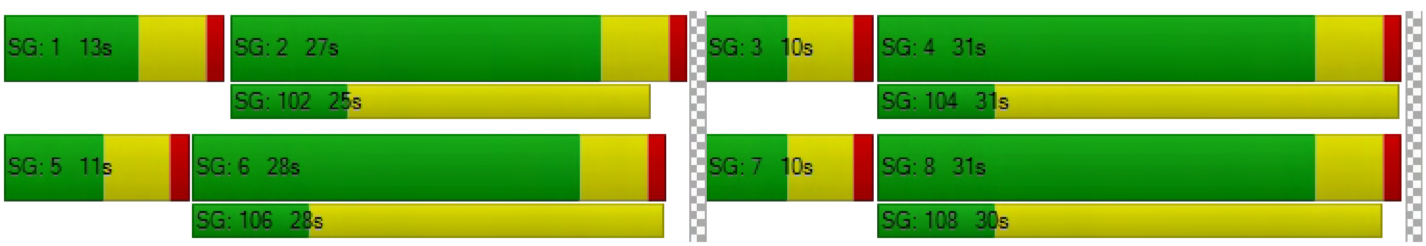
d_M, Delay for Movement [s/veh]	46.52	10.49	10.49	46.02	10.56	8.39	27.10	39.14	39.14	25.77	38.82	36.23
Movement LOS	D	B	B	D	B	A	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	12.94			12.27			34.99			37.44		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	17.07											
Intersection LOS	B											
Intersection V/C	0.454											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.815	2.943	2.101	2.200
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	575	650	650
d_b, Bicycle Delay [s]	21.03	20.31	18.23	18.23
I_b,int, Bicycle LOS Score for Intersection	2.226	2.343	2.033	1.782
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	33.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.735

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	0	7	25	13	6	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	397	82	168	389	204	154	1181	64	105	1129	92
Peak Hour Factor	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	109	22	46	106	56	42	323	18	29	309	25
Total Analysis Volume [veh/h]	59	434	90	184	426	223	168	1292	70	115	1235	101
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	37	0	0	37	0	12	43	0	10	41	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	34	34	34	34	34	34	46	36	36	46	35	35
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.38	0.51	0.40	0.40	0.51	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.06	0.14	0.14	0.21	0.22	0.14	0.24	0.36	0.36	0.18	0.36	0.36
s, saturation flow rate [veh/h]	977	1900	1789	892	1900	1615	705	1900	1866	643	1900	1850
c, Capacity [veh/h]	259	719	677	310	719	611	335	764	750	307	727	708
d1, Uniform Delay [s]	31.99	20.26	20.29	31.21	22.43	20.18	18.92	25.17	25.26	18.70	26.60	26.70
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.23	0.33	0.34	0.11	0.35	0.36
I, Upstream Filtering 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
d2, Incremental Delay [s]	2.05	1.49	1.60	8.10	3.58	1.68	2.42	11.08	11.82	0.75	15.30	16.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.23	0.37	0.38	0.59	0.59	0.37	0.50	0.90	0.90	0.37	0.93	0.93
d, Delay for Lane Group [s/veh]	34.04	21.75	21.90	39.31	26.00	21.87	21.34	36.26	37.08	19.45	41.90	43.20
Lane Group LOS	C	C	C	D	C	C	C	D	D	B	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.22	4.12	3.94	4.23	7.42	3.45	1.91	15.03	15.02	1.18	15.97	15.91
50th-Percentile Queue Length [ft/ln]	30.52	102.95	98.46	105.63	185.48	86.13	47.85	375.65	375.62	29.61	399.19	397.73
95th-Percentile Queue Length [veh/ln]	2.20	7.41	7.09	7.60	11.89	6.20	3.45	21.38	21.38	2.13	22.52	22.45
95th-Percentile Queue Length [ft/ln]	54.93	185.31	177.23	189.91	297.16	155.03	86.14	534.58	534.54	53.30	563.03	561.26

Movement, Approach, & Intersection Results

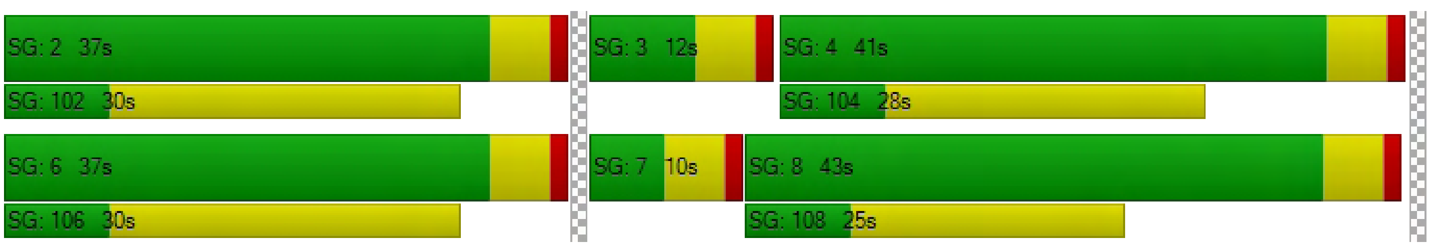
d_M, Delay for Movement [s/veh]	34.04	21.81	21.90	39.31	26.00	21.87	21.34	36.64	37.08	19.45	42.49	43.20
Movement LOS	C	C	C	D	C	C	C	D	D	B	D	D
d_A, Approach Delay [s/veh]	23.06			27.83			34.98			40.71		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	33.94											
Intersection LOS	C											
Intersection V/C	0.735											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	2.588	2.882	3.076	3.247
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	844	800
d_b, Bicycle Delay [s]	18.69	18.69	15.02	16.20
I_b,int, Bicycle LOS Score for Intersection	2.041	2.934	2.822	2.757
Bicycle LOS	B	C	C	C

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Project West Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	10	0	0	10	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	106	0	0	0	0	0	0	0	48
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	106	0	0	0	11	0	0	11	48
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	29	0	0	0	3	0	0	3	13
Total Analysis Volume [veh/h]	0	0	0	115	0	0	0	12	0	0	12	52
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.77	9.40	8.35	9.29	9.77	8.98	7.32	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.41	0.41	0.41	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	10.23	10.23	10.23	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.84			9.29			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.59											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 8: Project East Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.062

Intersection Setup

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Base Volume Input [veh/h]	0	0	0	10	10	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	0	0	106	48	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	0	0	117	59	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	0	0	32	16	5
Total Analysis Volume [veh/h]	49	0	0	127	64	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.85	8.93	7.36	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.20	0.20	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.94	4.94	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.85		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.84					
Intersection LOS	A					

COMPLETION YEAR (2024) PLUS PROJECT PLUS CUMULATIVE (EAGPC)

S2A Modular Manufacturing

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Report File: G:\...\AMOY2p.pdf

Scenario 4 Opening Year (Phase2) with Project
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.641	26.0	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.550	95.6	F
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.603	14.8	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	SB Left	0.869	54.3	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	SB Left	0.484	17.5	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Left	0.765	31.0	C
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	NB Thru	0.000	10.0	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.017	9.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: State Street / Esplanade Avenue

Control Type:	Signalized	Delay (sec / veh):	26.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.641

Intersection Setup

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Base Volume Input [veh/h]	41	503	78	170	567	93	65	347	66	97	427	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	76	29	18	95	5	6	15	50	42	14	17
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	631	115	206	721	108	78	398	123	149	485	194
Peak Hour Factor	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139	0.9139
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	173	31	56	197	30	21	109	34	41	133	53
Total Analysis Volume [veh/h]	88	690	126	225	789	118	85	435	135	163	531	212
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	13	30	0	10	32	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	22	0	0	23	0	0	23	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	5	37	37	49	38	38	26	16	16	26	17	17
g / C, Green / Cycle	0.06	0.43	0.43	0.57	0.45	0.45	0.31	0.19	0.19	0.31	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.05	0.22	0.22	0.24	0.24	0.24	0.07	0.16	0.16	0.14	0.15	0.13
s, saturation flow rate [veh/h]	1810	1900	1799	920	1900	1815	1148	1900	1748	1148	3618	1615
c, Capacity [veh/h]	116	814	770	539	856	817	359	363	334	353	717	320
d1, Uniform Delay [s]	39.21	17.87	17.87	10.68	17.03	17.04	22.24	33.04	33.09	23.54	32.10	31.52
k, delay calibration	0.11	0.50	0.50	0.21	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	9.51	2.33	2.46	1.00	2.46	2.58	0.34	4.50	5.08	0.94	1.52	2.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.76	0.52	0.52	0.42	0.54	0.54	0.24	0.82	0.82	0.46	0.74	0.66
d, Delay for Lane Group [s/veh]	48.71	20.20	20.33	11.68	19.49	19.62	22.57	37.54	38.17	24.48	33.62	33.87
Lane Group LOS	D	C	C	B	B	B	C	D	D	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.05	5.98	5.69	1.88	6.49	6.23	1.17	5.91	5.54	2.38	4.94	3.97
50th-Percentile Queue Length [ft/ln]	51.16	149.44	142.25	47.01	162.16	155.80	29.34	147.66	138.49	59.56	123.55	99.13
95th-Percentile Queue Length [veh/ln]	3.68	9.99	9.60	3.38	10.66	10.33	2.11	9.89	9.40	4.29	8.59	7.14
95th-Percentile Queue Length [ft/ln]	92.09	249.68	240.05	84.61	266.58	258.15	52.82	247.30	234.99	107.21	214.70	178.43

Movement, Approach, & Intersection Results

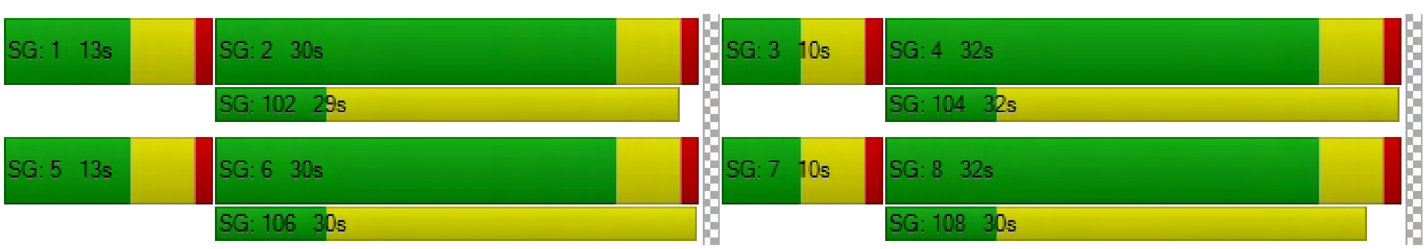
d_M, Delay for Movement [s/veh]	48.71	20.25	20.33	11.68	19.54	19.62	22.57	37.74	38.17	24.48	33.62	33.87
Movement LOS	D	C	C	B	B	B	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	23.03			17.99			35.86			32.03		
Approach LOS	C			B			D			C		
d_I, Intersection Delay [s/veh]	26.05											
Intersection LOS	C											
Intersection V/C	0.641											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.864	2.874	2.704	3.007
Crosswalk LOS	C	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	588	588	635	635
d_b, Bicycle Delay [s]	21.18	21.18	19.79	19.79
I_b,int, Bicycle LOS Score for Intersection	2.305	2.494	2.100	2.307
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	95.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.550

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	0	629	674	1	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	96	111	94	90	28	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	805	838	91	34	33
Peak Hour Factor	0.8702	0.8702	0.8702	0.8702	0.8702	0.8702
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	231	241	26	10	9
Total Analysis Volume [veh/h]	110	925	963	105	39	38
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.01	0.01	0.00	0.55	0.08
d_M, Delay for Movement [s/veh]	11.54	0.00	0.00	0.00	95.64	52.10
Movement LOS	B	A	A	A	F	F
95th-Percentile Queue Length [veh/ln]	0.59	0.00	0.00	0.00	3.23	3.23
95th-Percentile Queue Length [ft/ln]	14.87	0.00	0.00	0.00	80.65	80.65
d_A, Approach Delay [s/veh]	1.23		0.00		74.15	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	3.20					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: State Street / Fruitvale Avenue

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Base Volume Input [veh/h]	31	604	115	65	571	41	35	37	54	23	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	187	0	0	115	6	20	6	14	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	854	127	72	745	51	59	47	74	25	7	13
Peak Hour Factor	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591	0.8591
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	249	37	21	217	15	17	14	22	7	2	4
Total Analysis Volume [veh/h]	45	994	148	84	867	59	69	55	86	29	8	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	27	0	13	28	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	23	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	39	39	4	40	40	12	12	12
g / C, Green / Cycle	0.04	0.55	0.55	0.06	0.57	0.57	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.31	0.31	0.05	0.25	0.25	0.15	0.04	0.01
s, saturation flow rate [veh/h]	1810	1900	1815	1810	1900	1858	1444	1025	1615
c, Capacity [veh/h]	76	1046	1000	110	1081	1057	320	271	282
d1, Uniform Delay [s]	32.95	10.20	10.21	32.40	8.62	8.62	28.26	24.46	24.09
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.08	2.15	2.26	10.54	1.26	1.29	2.28	0.23	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.56	0.56	0.77	0.43	0.43	0.66	0.14	0.05
d, Delay for Lane Group [s/veh]	40.03	12.35	12.47	42.95	9.89	9.92	30.53	24.69	24.16
Lane Group LOS	D	B	B	D	A	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.86	5.18	4.99	1.64	3.52	3.45	3.36	0.50	0.20
50th-Percentile Queue Length [ft/ln]	21.40	129.39	124.71	40.92	87.88	86.14	83.90	12.51	4.96
95th-Percentile Queue Length [veh/ln]	1.54	8.91	8.65	2.95	6.33	6.20	6.04	0.90	0.36
95th-Percentile Queue Length [ft/ln]	38.51	222.66	216.28	73.66	158.19	155.05	151.02	22.51	8.93

Movement, Approach, & Intersection Results

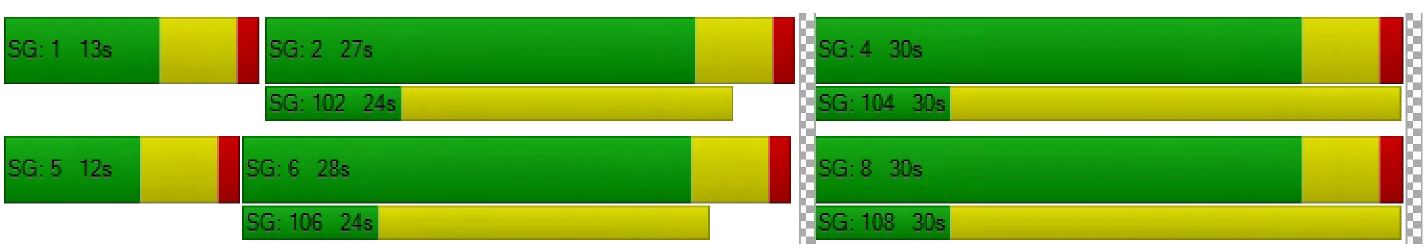
d_M, Delay for Movement [s/veh]	40.03	12.40	12.47	42.95	9.90	9.92	30.53	30.53	30.53	24.69	24.69	24.16
Movement LOS	D	B	B	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	13.45			12.65			30.53			24.54		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	14.82											
Intersection LOS	B											
Intersection V/C	0.603											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.950	2.990	1.910	2.073
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	629	657	714	714
d_b, Bicycle Delay [s]	16.46	15.78	14.46	14.46
I_b,int, Bicycle LOS Score for Intersection	2.539	2.393	1.906	1.645
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	54.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	24	531	63	110	516	34	69	176	43	22	187	138
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	117	5	3	118	8	61	32	16	23	6	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	703	75	124	688	46	137	226	63	47	212	166
Peak Hour Factor	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	204	22	36	200	13	40	66	18	14	62	48
Total Analysis Volume [veh/h]	44	817	87	144	799	53	159	263	73	55	246	193
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	40	0	15	40	0	0	35	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	35	35	10	41	41	34	21	21
g / C, Green / Cycle	0.03	0.29	0.29	0.08	0.34	0.34	0.28	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.24	0.24	0.08	0.23	0.23	0.27	0.16	0.12
s, saturation flow rate [veh/h]	1810	1900	1837	1810	1900	1859	1823	1883	1615
c, Capacity [veh/h]	58	556	537	151	653	639	509	335	287
d1, Uniform Delay [s]	57.60	39.61	39.61	54.77	33.41	33.41	42.79	48.27	46.06
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.41	0.17	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	17.55	13.21	13.60	24.34	5.16	5.27	30.03	12.77	2.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.83	0.83	0.95	0.66	0.66	0.97	0.90	0.67
d, Delay for Lane Group [s/veh]	75.15	52.81	53.21	79.10	38.57	38.68	72.81	61.04	48.77
Lane Group LOS	E	D	D	E	D	D	E	E	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.61	14.60	14.17	5.28	11.27	11.04	18.29	9.81	5.49
50th-Percentile Queue Length [ft/ln]	40.24	364.94	354.25	131.99	281.64	276.02	457.30	245.28	137.31
95th-Percentile Queue Length [veh/ln]	2.90	20.86	20.34	9.05	16.77	16.49	25.31	14.95	9.34
95th-Percentile Queue Length [ft/ln]	72.43	521.59	508.59	226.19	419.25	412.25	632.65	373.71	233.40

Movement, Approach, & Intersection Results

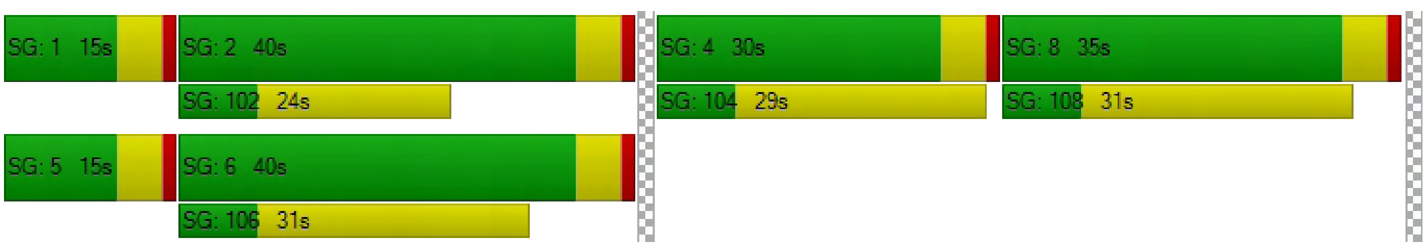
d_M, Delay for Movement [s/veh]	75.15	52.99	53.21	79.10	38.62	38.68	72.81	72.81	72.81	61.04	61.04	48.77
Movement LOS	E	D	D	E	D	D	E	E	E	E	E	D
d_A, Approach Delay [s/veh]	54.04			44.47			72.81			56.25		
Approach LOS	D			D			E			E		
d_I, Intersection Delay [s/veh]	54.33											
Intersection LOS	D											
Intersection V/C	0.869											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
I_p,int, Pedestrian LOS Score for Intersection	2.771	2.936	2.273	2.382
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	583	500	417
d_b, Bicycle Delay [s]	30.10	30.10	33.75	37.60
I_b,int, Bicycle LOS Score for Intersection	2.342	2.381	2.376	2.375
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 5: State Street / Devonshire Avenue

Control Type:	Signalized	Delay (sec / veh):	17.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Base Volume Input [veh/h]	19	488	17	52	497	65	71	101	48	12	46	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	196	1	1	198	1	4	1	7	5	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	735	20	58	747	73	82	113	60	18	51	37
Peak Hour Factor	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560	0.8560
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	215	6	17	218	21	24	33	18	5	15	11
Total Analysis Volume [veh/h]	26	859	23	68	873	85	96	132	70	21	60	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	29	0	15	29	0	10	31	0	10	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	21	0	0	23	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	2	47	47	4	49	49	19	12	19	9	9
g / C, Green / Cycle	0.03	0.55	0.55	0.05	0.57	0.57	0.22	0.14	0.22	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.01	0.23	0.23	0.04	0.24	0.05	0.06	0.11	0.02	0.03	0.03
s, saturation flow rate [veh/h]	1810	1900	1883	1810	3618	1615	1553	1791	1362	1900	1615
c, Capacity [veh/h]	52	1045	1035	91	2068	923	440	252	304	200	170
d1, Uniform Delay [s]	40.80	11.26	11.26	39.92	10.30	8.25	27.15	35.48	26.47	35.23	35.05
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.40	1.26	1.27	11.33	0.63	0.20	0.25	5.91	0.10	0.83	0.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.42	0.42	0.74	0.42	0.09	0.22	0.80	0.07	0.30	0.25
d, Delay for Lane Group [s/veh]	48.20	12.52	12.53	51.24	10.93	8.45	27.39	41.39	26.57	36.06	35.82
Lane Group LOS	D	B	B	D	B	A	C	D	C	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.62	4.56	4.52	1.64	4.06	0.66	1.60	4.39	0.34	1.18	0.84
50th-Percentile Queue Length [ft/ln]	15.61	114.04	113.08	40.97	101.55	16.39	40.03	109.65	8.43	29.48	21.11
95th-Percentile Queue Length [veh/ln]	1.12	8.06	8.01	2.95	7.31	1.18	2.88	7.82	0.61	2.12	1.52
95th-Percentile Queue Length [ft/ln]	28.10	201.60	200.28	73.74	182.79	29.51	72.06	195.52	15.18	53.07	38.00

Movement, Approach, & Intersection Results

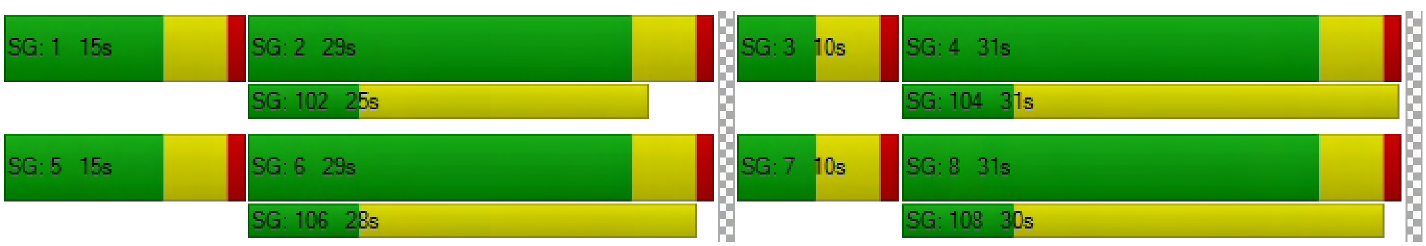
d_M, Delay for Movement [s/veh]	48.20	12.53	12.53	51.24	10.93	8.45	27.39	41.39	41.39	26.57	36.06	35.82
Movement LOS	D	B	B	D	B	A	C	D	D	C	D	D
d_A, Approach Delay [s/veh]	13.55			13.40			36.88			34.37		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	17.53											
Intersection LOS	B											
Intersection V/C	0.484											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.860	2.984	2.089	2.212
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	565	565	612	612
d_b, Bicycle Delay [s]	21.89	21.89	20.48	20.48
I_b,int, Bicycle LOS Score for Intersection	2.309	2.406	2.051	1.764
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	31.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.765

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	82	16	46	78	86	75	39	46	20	51	41
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	471	84	153	389	179	173	805	84	69	900	92
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	135	24	44	112	51	50	231	24	20	259	26
Total Analysis Volume [veh/h]	85	541	97	176	447	206	199	925	97	79	1034	106
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	16	34	0	14	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	28	28	28	28	28	28	11	32	32	5	26	26
g / C, Green / Cycle	0.35	0.35	0.35	0.35	0.35	0.35	0.13	0.40	0.40	0.06	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.17	0.22	0.24	0.13	0.11	0.27	0.27	0.04	0.30	0.31
s, saturation flow rate [veh/h]	958	1900	1801	803	1900	1615	1810	1900	1837	1810	1900	1839
c, Capacity [veh/h]	223	671	636	252	671	570	238	764	739	104	623	603
d1, Uniform Delay [s]	32.54	20.23	20.24	32.56	21.90	19.19	33.92	19.69	19.70	37.19	26.00	26.02
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.19	0.19	0.11	0.30	0.30
I, Upstream Filtering 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
d2, Incremental Delay [s]	4.87	2.52	2.68	14.83	5.17	1.77	7.56	1.85	1.93	10.87	15.15	15.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.38	0.49	0.49	0.70	0.67	0.36	0.84	0.68	0.68	0.76	0.93	0.93
d, Delay for Lane Group [s/veh]	37.41	22.75	22.92	47.39	27.07	20.97	41.48	21.53	21.64	48.06	41.15	41.84
Lane Group LOS	D	C	C	D	C	C	D	C	C	D	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.78	4.84	4.63	4.29	7.43	2.89	4.12	7.64	7.43	1.79	12.45	12.19
50th-Percentile Queue Length [ft/ln]	44.43	120.94	115.75	107.22	185.70	72.30	103.05	191.10	185.77	44.70	311.19	304.65
95th-Percentile Queue Length [veh/ln]	3.20	8.44	8.16	7.69	11.90	5.21	7.42	12.18	11.90	3.22	18.23	17.91
95th-Percentile Queue Length [ft/ln]	79.98	211.12	203.97	192.13	297.44	130.14	185.50	304.46	297.53	80.46	455.85	447.78

Movement, Approach, & Intersection Results

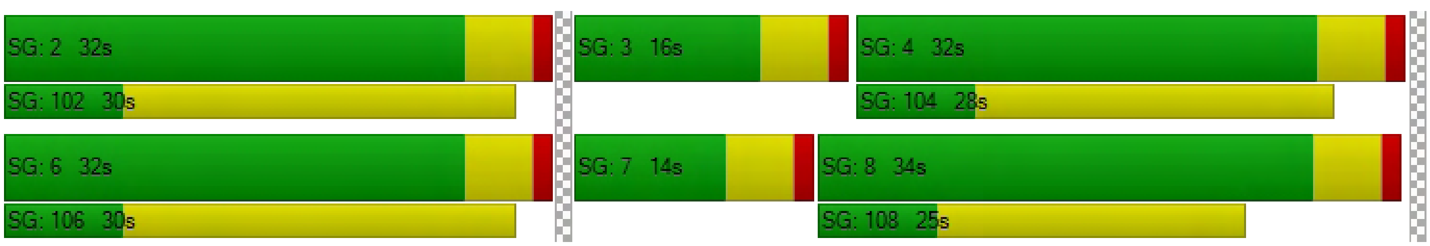
d_M, Delay for Movement [s/veh]	37.41	22.81	22.92	47.39	27.07	20.97	41.48	21.58	21.64	48.06	41.45	41.84
Movement LOS	D	C	C	D	C	C	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	24.54			29.87			24.83			41.91		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	31.04											
Intersection LOS	C											
Intersection V/C	0.765											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.562	2.809	2.993	3.093
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	675	675	725	675
d_b, Bicycle Delay [s]	17.56	17.56	16.26	17.56
I_b,int, Bicycle LOS Score for Intersection	2.156	2.927	2.567	2.565
Bicycle LOS	B	C	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Project West Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	10	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	43	0	0	0	0	0	0	0	148
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	43	0	0	0	11	0	0	1	148
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	12	0	0	0	3	0	0	0	40
Total Analysis Volume [veh/h]	0	0	0	47	0	0	0	12	0	0	1	161
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.02	9.98	8.35	9.25	9.72	8.88	7.52	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.17	0.17	0.17	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	4.15	4.15	4.15	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.12			9.25			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.97											
Intersection LOS	A											

Intersection Level Of Service Report

Intersection 8: Project East Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Base Volume Input [veh/h]	0	0	0	10	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	43	148	38
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	0	54	149	38
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	15	40	10
Total Analysis Volume [veh/h]	13	0	0	59	162	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.88	9.25	7.61	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.32	1.32	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.88		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.47					
Intersection LOS	A					

S2A Modular Manufacturing

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Report File: G:\...\PMOY2p.pdf

Scenario 4 Opening Year (Phase2) with Project
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.878	38.9	D
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	1.463	439.4	F
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	NB Left	0.657	15.0	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	EB Thru	1.045	106.5	F
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	NB Left	0.591	17.9	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	SB Left	0.984	53.6	D
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Thru	0.000	9.8	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.062	9.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: State Street / Esplanade Avenue

Control Type:	Signalized	Delay (sec / veh):	38.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.878

Intersection Setup

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Esplanade Ave			Esplanade Ave		
Base Volume Input [veh/h]	90	571	166	214	636	93	110	498	84	122	498	145
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	70	144	56	10	130	14	14	16	54	46	17	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	169	774	239	246	832	117	135	566	147	181	567	170
Peak Hour Factor	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857	0.8857
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	218	67	69	235	33	38	160	41	51	160	48
Total Analysis Volume [veh/h]	191	874	270	278	939	132	152	639	166	204	640	192
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	13	30	0	11	32	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	22	0	0	23	0	0	23	0	0	25	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	8	30	30	43	30	30	33	22	22	33	22	22
g / C, Green / Cycle	0.09	0.35	0.35	0.50	0.35	0.35	0.38	0.25	0.25	0.38	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.11	0.31	0.32	0.33	0.29	0.29	0.14	0.22	0.22	0.20	0.18	0.12
s, saturation flow rate [veh/h]	1810	1900	1749	842	1900	1819	1085	1900	1767	1003	3618	1615
c, Capacity [veh/h]	173	658	606	400	658	630	402	478	444	360	910	406
d1, Uniform Delay [s]	38.63	26.53	26.67	18.01	25.61	25.67	19.37	30.66	30.66	21.14	29.07	27.15
k, delay calibration	0.11	0.50	0.50	0.39	0.50	0.50	0.11	0.16	0.16	0.13	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	63.99	17.76	20.19	7.49	11.54	12.35	0.59	7.39	7.89	1.68	1.01	0.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	1.10	0.90	0.91	0.69	0.83	0.83	0.38	0.87	0.87	0.57	0.70	0.47
d, Delay for Lane Group [s/veh]	102.62	44.29	46.85	25.50	37.15	38.02	19.96	38.05	38.55	22.82	30.07	28.01
Lane Group LOS	F	D	D	C	D	D	B	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.54	13.70	13.17	3.63	11.39	11.13	1.90	8.53	7.99	2.71	5.62	3.17
50th-Percentile Queue Length [ft/ln]	163.47	342.41	329.28	90.63	284.85	278.29	47.45	213.28	199.85	67.67	140.47	79.36
95th-Percentile Queue Length [veh/ln]	11.11	19.77	19.12	6.53	16.93	16.60	3.42	13.32	12.63	4.87	9.51	5.71
95th-Percentile Queue Length [ft/ln]	277.80	494.14	478.08	163.13	423.24	415.08	85.41	333.03	315.77	121.80	237.65	142.85

Movement, Approach, & Intersection Results

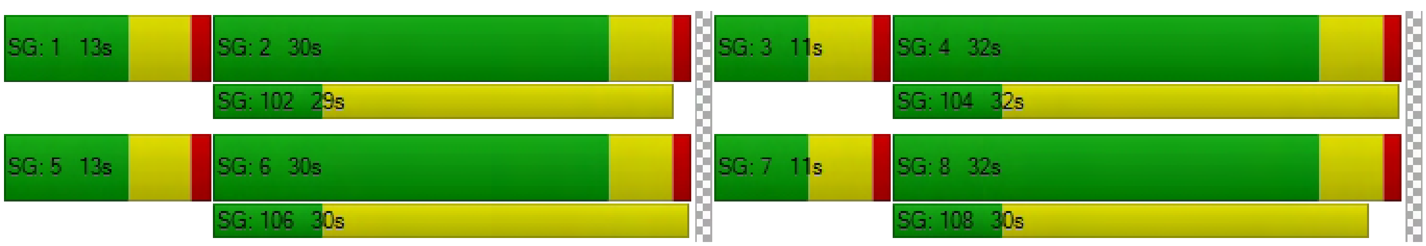
d_M, Delay for Movement [s/veh]	102.62	45.12	46.85	25.50	37.52	38.02	19.96	38.22	38.55	22.82	30.07	28.01
Movement LOS	F	D	D	C	D	D	B	D	D	C	C	C
d_A, Approach Delay [s/veh]		53.69			35.09			35.38			28.26	
Approach LOS		D			D			D			C	
d_I, Intersection Delay [s/veh]	38.95											
Intersection LOS	D											
Intersection V/C	0.878											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	3.064	3.024	2.858	3.137
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	588	588	635	635
d_b, Bicycle Delay [s]	21.18	21.18	19.79	19.79
I_b,int, Bicycle LOS Score for Intersection	2.661	2.673	2.349	2.414
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	439.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.463

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	4	818	807	6	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	193	195	32	72	79
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1096	1086	39	78	85
Peak Hour Factor	0.9153	0.9153	0.9153	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	299	297	11	21	23
Total Analysis Volume [veh/h]	44	1197	1186	43	85	93
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.01	0.01	0.00	1.46	0.21
d_M, Delay for Movement [s/veh]	11.79	0.00	0.00	0.00	439.38	385.58
Movement LOS	B	A	A	A	F	F
95th-Percentile Queue Length [veh/ln]	0.25	0.00	0.00	0.00	13.80	13.80
95th-Percentile Queue Length [ft/ln]	6.20	0.00	0.00	0.00	345.08	345.08
d_A, Approach Delay [s/veh]	0.42		0.00		411.27	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	27.84					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: State Street / Fruitvale Avenue

Control Type:	Signalized	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.657

Intersection Setup

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Fruitvale Ave			Fruitvale Ave		
Base Volume Input [veh/h]	50	741	23	14	764	44	45	0	49	43	27	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	216	0	0	253	21	13	11	9	0	13	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	1034	25	15	1097	70	63	11	63	47	43	29
Peak Hour Factor	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778	0.8778
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	294	7	4	312	20	18	3	18	13	12	8
Total Analysis Volume [veh/h]	80	1178	28	17	1250	80	72	13	72	54	49	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	30	0	10	28	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	23	0	0	23	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	41	41	1	39	39	12	12	12
g / C, Green / Cycle	0.06	0.59	0.59	0.02	0.55	0.55	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.04	0.32	0.32	0.01	0.35	0.35	0.15	0.07	0.02
s, saturation flow rate [veh/h]	1810	1900	1885	1810	1900	1860	1075	1416	1615
c, Capacity [veh/h]	105	1118	1109	38	1048	1026	265	328	285
d1, Uniform Delay [s]	32.52	8.71	8.71	33.90	10.90	10.92	28.54	25.25	24.25
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.74	1.88	1.90	8.01	3.01	3.10	2.12	0.54	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.54	0.54	0.45	0.64	0.64	0.59	0.31	0.12
d, Delay for Lane Group [s/veh]	43.26	10.59	10.62	41.91	13.91	14.02	30.65	25.79	24.43
Lane Group LOS	D	B	B	D	B	B	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.57	4.73	4.70	0.35	6.46	6.38	2.55	1.44	0.44
50th-Percentile Queue Length [ft/ln]	39.21	118.22	117.53	8.86	161.59	159.49	63.78	36.02	11.03
95th-Percentile Queue Length [veh/ln]	2.82	8.30	8.26	0.64	10.63	10.52	4.59	2.59	0.79
95th-Percentile Queue Length [ft/ln]	70.58	207.38	206.43	15.94	265.82	263.05	114.80	64.84	19.86

Movement, Approach, & Intersection Results

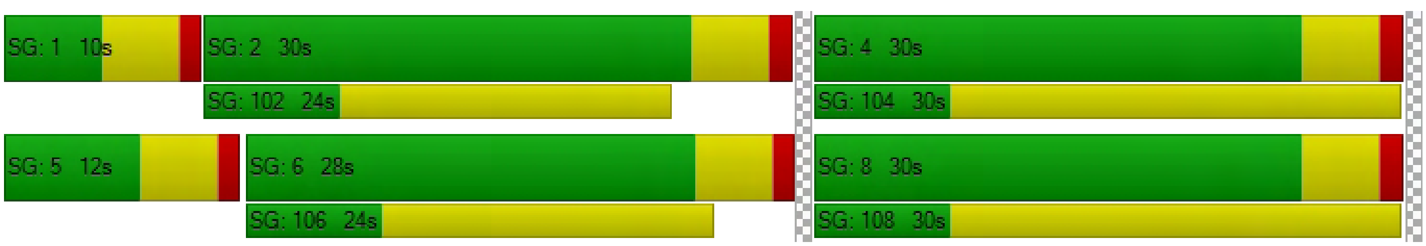
d_M, Delay for Movement [s/veh]	43.26	10.60	10.62	41.91	13.96	14.02	30.65	30.65	30.65	25.79	25.79	24.43
Movement LOS	D	B	B	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	12.64			14.32			30.65			25.46		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	14.97											
Intersection LOS	B											
Intersection V/C	0.657											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	3.093	3.111	1.939	2.010
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	714	657	714	714
d_b, Bicycle Delay [s]	14.46	15.78	14.46	14.46
I_b,int, Bicycle LOS Score for Intersection	2.621	2.671	1.819	1.784
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	106.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.045

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	29	612	76	127	694	98	63	248	33	52	222	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	131	6	16	222	24	93	57	17	55	9	7
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	807	90	156	988	132	163	331	53	112	254	131
Peak Hour Factor	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	222	25	43	272	36	45	91	15	31	70	36
Total Analysis Volume [veh/h]	55	889	99	172	1088	145	180	365	58	123	280	144
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	40	0	16	43	0	0	38	0	0	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	5	30	30	11	36	36	33	26	26
g / C, Green / Cycle	0.04	0.25	0.25	0.09	0.30	0.30	0.27	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.03	0.26	0.26	0.10	0.33	0.33	0.33	0.22	0.09
s, saturation flow rate [veh/h]	1810	1900	1834	1810	1900	1823	1841	1871	1615
c, Capacity [veh/h]	73	477	460	167	575	552	504	405	350
d1, Uniform Delay [s]	57.04	44.98	44.98	54.50	41.85	41.85	43.61	46.95	40.45
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.33	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.59	56.36	57.15	40.49	64.05	67.81	106.53	34.88	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	1.05	1.05	1.03	1.09	1.10	1.20	0.99	0.41
d, Delay for Lane Group [s/veh]	71.63	101.34	102.12	94.99	105.90	109.66	150.14	81.83	41.22
Lane Group LOS	E	F	F	F	F	F	F	F	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.95	21.53	20.88	6.83	26.68	26.17	29.39	15.63	3.68
50th-Percentile Queue Length [ft/ln]	48.69	538.24	522.04	170.74	666.96	654.37	734.64	390.73	91.93
95th-Percentile Queue Length [veh/ln]	3.51	30.09	29.30	11.24	37.13	36.68	42.49	22.11	6.62
95th-Percentile Queue Length [ft/ln]	87.64	752.30	732.58	281.01	928.32	917.12	1062.19	552.82	165.47

Movement, Approach, & Intersection Results

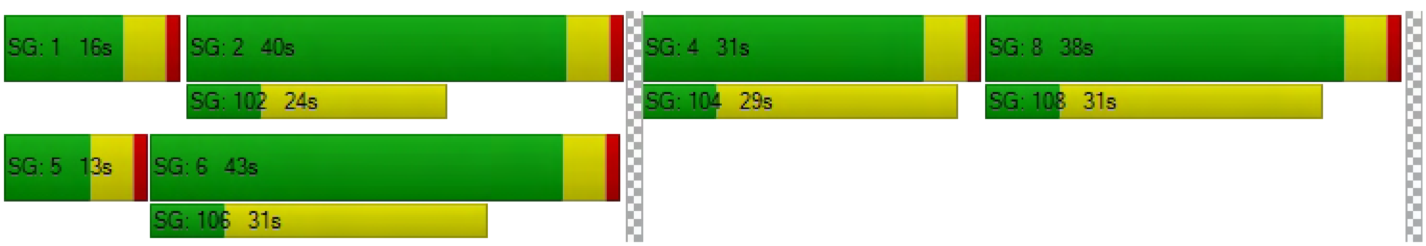
d_M, Delay for Movement [s/veh]	71.63	101.68	102.12	94.99	107.49	109.66	150.14	150.14	150.14	81.83	81.83	41.22
Movement LOS	E	F	F	F	F	F	F	F	F	F	F	D
d_A, Approach Delay [s/veh]	100.14			106.19			150.14			71.14		
Approach LOS	F			F			F			E		
d_I, Intersection Delay [s/veh]	106.47											
Intersection LOS	F											
Intersection V/C	1.045											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
I_p,int, Pedestrian LOS Score for Intersection	2.842	3.034	2.433	2.467
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	633	550	433
d_b, Bicycle Delay [s]	30.10	28.02	31.54	36.82
I_b,int, Bicycle LOS Score for Intersection	2.420	2.719	2.555	2.462
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: State Street / Devonshire Avenue

Control Type:	Signalized	Delay (sec / veh):	17.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.591

Intersection Setup

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Devonshire Ave			Devonshire Ave		
Base Volume Input [veh/h]	47	620	7	40	655	71	83	100	62	5	74	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	330	11	4	330	5	2	1	10	8	1	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	1015	19	48	1053	83	94	111	78	14	83	40
Peak Hour Factor	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457	0.9457
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	268	5	13	278	22	25	29	21	4	22	11
Total Analysis Volume [veh/h]	69	1073	20	51	1113	88	99	117	82	15	88	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	33	0	15	33	0	15	31	0	15	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	21	0	0	23	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	4	40	40	3	39	39	17	11	17	7	7
g / C, Green / Cycle	0.05	0.53	0.53	0.04	0.52	0.52	0.23	0.14	0.23	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.04	0.29	0.29	0.03	0.31	0.05	0.06	0.11	0.01	0.05	0.03
s, saturation flow rate [veh/h]	1810	1900	1888	1810	3618	1615	1548	1771	1358	1900	1615
c, Capacity [veh/h]	94	1002	996	81	1882	840	444	253	327	186	158
d1, Uniform Delay [s]	35.11	11.79	11.80	35.28	12.49	9.15	23.72	31.08	22.98	32.05	31.38
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.64	2.15	2.16	7.91	1.37	0.25	0.25	5.33	0.06	1.86	0.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.55	0.55	0.63	0.59	0.10	0.22	0.79	0.05	0.47	0.27
d, Delay for Lane Group [s/veh]	45.75	13.94	13.96	43.20	13.87	9.40	23.98	36.41	23.03	33.90	32.26
Lane Group LOS	D	B	B	D	B	A	C	D	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.46	5.60	5.57	1.05	5.70	0.68	1.42	3.74	0.21	1.57	0.73
50th-Percentile Queue Length [ft/ln]	36.41	140.01	139.25	26.20	142.47	16.92	35.40	93.41	5.13	39.16	18.15
95th-Percentile Queue Length [veh/ln]	2.62	9.48	9.44	1.89	9.61	1.22	2.55	6.73	0.37	2.82	1.31
95th-Percentile Queue Length [ft/ln]	65.54	237.04	236.02	47.16	240.35	30.45	63.71	168.15	9.23	70.49	32.67

Movement, Approach, & Intersection Results

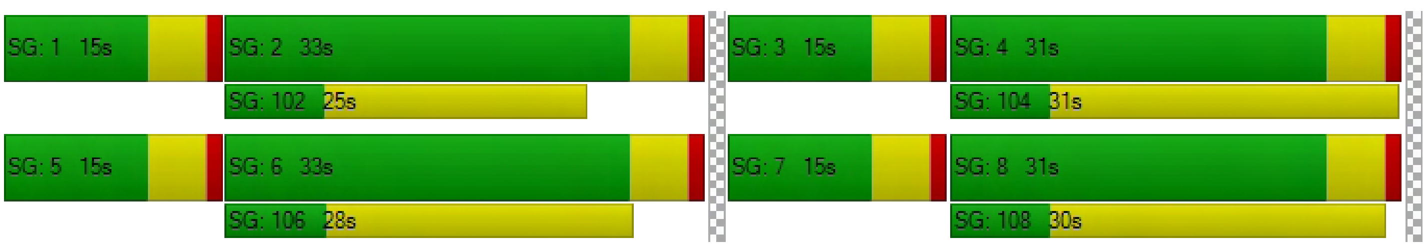
d_M, Delay for Movement [s/veh]	45.75	13.95	13.96	43.20	13.87	9.40	23.98	36.41	36.41	23.03	33.90	32.26
Movement LOS	D	B	B	D	B	A	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	15.84			14.75			32.28			32.30		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	17.91											
Intersection LOS	B											
Intersection V/C	0.591											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	27.31	27.31	27.31	27.31
I_p,int, Pedestrian LOS Score for Intersection	2.960	3.059	2.107	2.202
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	747	747	693	693
d_b, Bicycle Delay [s]	14.73	14.73	16.01	16.01
I_b,int, Bicycle LOS Score for Intersection	2.518	2.593	2.051	1.799
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	53.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.984

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	92	140	43	80	138	130	135	60	76	37	55	79
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	146	526	125	241	502	321	283	1241	140	142	1184	168
Peak Hour Factor	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	144	34	66	137	88	77	339	38	39	324	46
Total Analysis Volume [veh/h]	160	575	137	264	549	351	310	1357	153	155	1295	184
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	37	0	0	37	0	12	43	0	10	41	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	32	32	32	32	32	32	48	38	38	48	36	36
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.36	0.36	0.53	0.42	0.42	0.53	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.18	0.19	0.19	0.35	0.29	0.22	0.47	0.40	0.41	0.26	0.39	0.40
s, saturation flow rate [veh/h]	872	1900	1775	750	1900	1615	665	1900	1834	596	1900	1819
c, Capacity [veh/h]	149	678	633	218	678	576	331	800	772	294	757	725
d1, Uniform Delay [s]	43.37	23.09	23.09	39.74	26.18	23.79	29.12	25.11	25.57	19.47	26.84	27.06
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.42	0.19	0.43	0.44
I, Upstream Filtering 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
d2, Incremental Delay [s]	95.94	3.10	3.32	129.15	10.11	4.74	35.92	18.51	24.04	2.51	27.47	33.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	1.08	0.54	0.54	1.21	0.81	0.61	0.94	0.95	0.97	0.53	0.99	1.01
d, Delay for Lane Group [s/veh]	139.31	26.19	26.42	168.90	36.29	28.53	65.04	43.62	49.61	21.98	54.32	60.39
Lane Group LOS	F	C	C	F	D	C	E	D	D	C	D	F
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.18	6.41	6.03	12.56	11.75	6.48	6.51	18.44	19.61	1.66	20.48	21.07
50th-Percentile Queue Length [ft/ln]	179.41	160.15	150.72	313.91	293.84	162.00	162.65	460.89	490.36	41.47	511.94	526.87
95th-Percentile Queue Length [veh/ln]	12.06	10.56	10.06	20.44	17.38	10.65	10.69	25.48	26.88	2.99	27.90	28.76
95th-Percentile Queue Length [ft/ln]	301.57	263.93	251.40	510.88	434.40	266.36	267.22	636.93	671.94	74.64	697.47	719.05

Movement, Approach, & Intersection Results

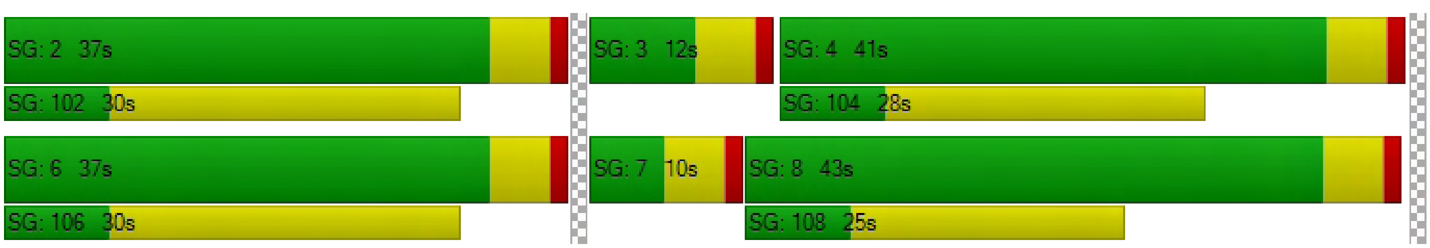
d_M, Delay for Movement [s/veh]	139.31	26.27	26.42	168.90	36.29	28.53	65.04	46.27	49.61	21.98	56.88	60.39
Movement LOS	F	C	C	F	D	C	E	D	D	C	E	E
d_A, Approach Delay [s/veh]	47.04			64.02			49.75			53.96		
Approach LOS	D			E			D			D		
d_I, Intersection Delay [s/veh]	53.60											
Intersection LOS	D											
Intersection V/C	0.984											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	2.790	3.122	3.352	3.447
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	844	800
d_b, Bicycle Delay [s]	18.69	18.69	15.02	16.20
I_b,int, Bicycle LOS Score for Intersection	2.279	3.480	3.061	2.908
Bicycle LOS	B	C	C	C

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: Project West Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Project West Access			Project West Access			Crows Nest Pl			Crows Nest Pl		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	10	0	0	10	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	106	0	0	0	0	0	0	0	48
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	106	0	0	0	11	0	0	11	48
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	29	0	0	0	3	0	0	3	13
Total Analysis Volume [veh/h]	0	0	0	115	0	0	0	12	0	0	12	52
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.77	9.40	8.35	9.29	9.77	8.98	7.32	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.41	0.41	0.41	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	10.23	10.23	10.23	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.84			9.29			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.59											
Intersection LOS	A											

Intersection Level Of Service Report

Intersection 8: Project East Access at Crows Nest Pl

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.062

Intersection Setup

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project East Access		Crows Nest Pl		Crows Nest Pl	
Base Volume Input [veh/h]	0	0	0	10	10	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	0	0	106	48	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	0	0	117	59	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	0	0	32	16	5
Total Analysis Volume [veh/h]	49	0	0	127	64	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.85	8.93	7.36	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.20	0.20	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.94	4.94	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.85		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.84					
Intersection LOS	A					

EXISTING PLUS PROJECT

WITH IMPROVEMENTS

S2A Modular Manufacturing

Vistro File: G:\...\AM_IMPRV.vistro
Report File: G:\...\AMEp_IMPRV.pdf

Scenario 2 Existing Plus Project
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	State Street / Crows Nest Pl	Signalized	HCM 6th Edition	EB Left	0.424	8.2	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Signalized	Delay (sec / veh):	8.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	0	629	674	1	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	96	0	0	90	28	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	629	674	91	33	32
Peak Hour Factor	0.8702	0.8702	0.8702	0.8702	0.8702	0.8702
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	181	194	26	9	9
Total Analysis Volume [veh/h]	110	723	775	105	38	37
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	4.0	4.0	4.0	0.0	4.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	10	30	20	0	35	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	7	7	0	7	0
Pedestrian Clearance [s]	0	13	10	0	18	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	3.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C
C, Cycle Length [s]	65	65	65	65	65
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	5	51	41	41	4
g / C, Green / Cycle	0.08	0.79	0.63	0.63	0.06
(v / s)_i Volume / Saturation Flow Rate	0.06	0.20	0.23	0.24	0.04
s, saturation flow rate [veh/h]	1810	3618	1900	1823	1708
c, Capacity [veh/h]	142	2849	1202	1153	101
d1, Uniform Delay [s]	29.47	1.84	5.72	5.80	30.17
k, delay calibration	0.11	0.50	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.80	0.21	0.86	0.96	10.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.25	0.37	0.38	0.74
d, Delay for Lane Group [s/veh]	38.27	2.05	6.59	6.76	40.49
Lane Group LOS	D	A	A	A	D
Critical Lane Group	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.91	0.31	2.17	2.21	1.40
50th-Percentile Queue Length [ft/ln]	47.70	7.65	54.16	55.25	34.96
95th-Percentile Queue Length [veh/ln]	3.43	0.55	3.90	3.98	2.52
95th-Percentile Queue Length [ft/ln]	85.86	13.78	97.50	99.46	62.92

Movement, Approach, & Intersection Results

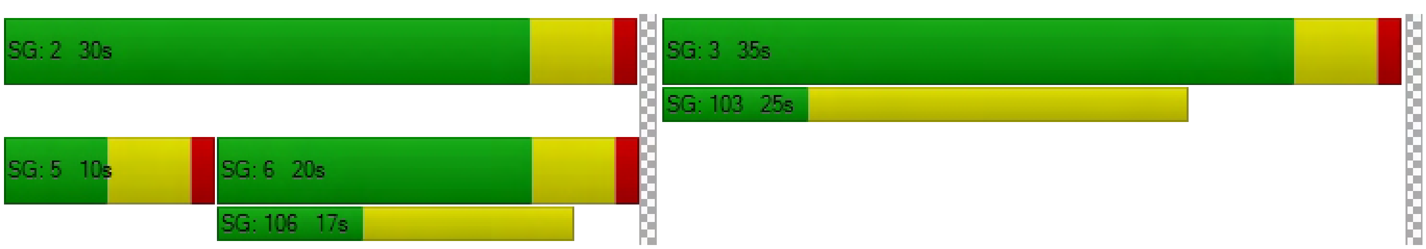
d_M, Delay for Movement [s/veh]	38.27	2.05	6.66	6.76	40.49	40.49
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.84		6.67		40.49	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.17					
Intersection LOS	A					
Intersection V/C	0.424					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.43	0.00	22.43
I_p,int, Pedestrian LOS Score for Intersection	2.791	0.000	1.838
Crosswalk LOS	C	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	32.50	32.50	32.50
I_b,int, Bicycle LOS Score for Intersection	4.820	4.858	4.256
Bicycle LOS	E	E	E

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Scenario 2 Existing Plus Project
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	State Street / Crows Nest Pl	Signalized	HCM 6th Edition	NB Left	0.452	14.9	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Signalized	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	4	818	807	6	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	0	32	72	79
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	818	807	38	77	84
Peak Hour Factor	0.9153	0.9153	0.9153	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	223	220	10	21	23
Total Analysis Volume [veh/h]	44	894	882	42	84	92
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	4.0	4.0	4.0	0.0	4.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	10	45	35	0	25	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	7	7	0	7	0
Pedestrian Clearance [s]	0	13	10	0	18	0
Rest In Walk		Yes	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	3.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C
C, Cycle Length [s]	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	5	40	30	30	20
g / C, Green / Cycle	0.07	0.57	0.43	0.43	0.29
(v / s)_i Volume / Saturation Flow Rate	0.02	0.25	0.24	0.25	0.10
s, saturation flow rate [veh/h]	1810	3618	1900	1870	1702
c, Capacity [veh/h]	129	2067	814	801	486
d1, Uniform Delay [s]	30.93	8.54	15.10	15.18	19.92
k, delay calibration	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.02	0.66	2.86	3.01	2.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.43	0.57	0.58	0.36
d, Delay for Lane Group [s/veh]	37.95	9.20	17.96	18.19	22.00
Lane Group LOS	D	A	B	B	C
Critical Lane Group	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.92	3.16	5.39	5.44	2.44
50th-Percentile Queue Length [ft/ln]	22.90	78.90	134.78	135.99	61.04
95th-Percentile Queue Length [veh/ln]	1.65	5.68	9.20	9.26	4.39
95th-Percentile Queue Length [ft/ln]	41.21	142.02	229.98	231.62	109.87

Movement, Approach, & Intersection Results

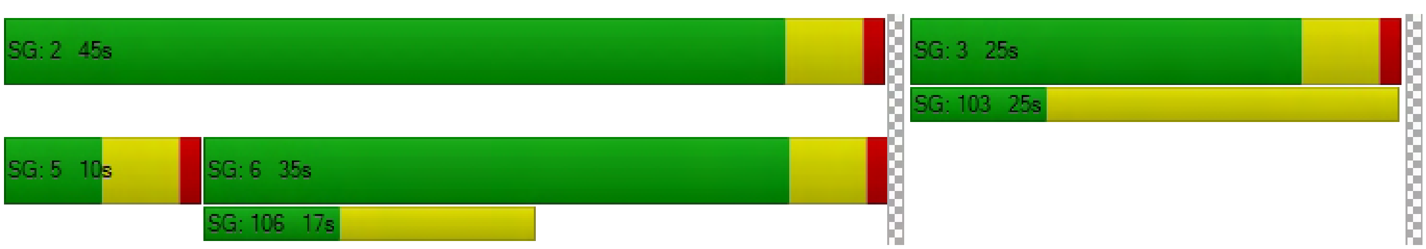
d_M, Delay for Movement [s/veh]	37.95	9.20	18.07	18.19	22.00	22.00
Movement LOS	D	A	B	B	C	C
d_A, Approach Delay [s/veh]	10.55		18.07		22.00	
Approach LOS	B		B		C	
d_I, Intersection Delay [s/veh]	14.95					
Intersection LOS	B					
Intersection V/C	0.452					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	0.00	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.853	0.000	1.829
Crosswalk LOS	C	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	35.00	35.00	35.00
I_b,int, Bicycle LOS Score for Intersection	4.906	4.895	4.423
Bicycle LOS	E	E	E

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



OPENING YEAR (2021) PLUS PROJECT (EAGP)

WITH IMPROVEMENTS

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Scenario 8 Opening Year (Phase1) (EAGp)

5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	State Street / Crows Nest Pl	Signalized	HCM 6th Edition	EB Right	0.345	5.4	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Signalized	Delay (sec / veh):	5.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	0	629	674	1	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	42	0	0	40	14	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	654	701	41	19	20
Peak Hour Factor	0.8702	0.8702	0.8702	0.8702	0.8702	0.8702
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	188	201	12	5	6
Total Analysis Volume [veh/h]	48	752	806	47	22	23
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	4.0	4.0	4.0	0.0	4.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	10	30	20	0	35	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	7	7	0	7	0
Pedestrian Clearance [s]	0	13	10	0	18	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	3.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C
C, Cycle Length [s]	65	65	65	65	65
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	52	44	44	3
g / C, Green / Cycle	0.05	0.80	0.68	0.68	0.04
(v / s)_i Volume / Saturation Flow Rate	0.03	0.21	0.22	0.23	0.03
s, saturation flow rate [veh/h]	1810	3618	1900	1864	1705
c, Capacity [veh/h]	84	2900	1289	1264	76
d1, Uniform Delay [s]	30.42	1.62	4.34	4.37	30.53
k, delay calibration	0.11	0.50	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.93	0.22	0.69	0.72	7.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.26	0.33	0.34	0.59
d, Delay for Lane Group [s/veh]	36.35	1.83	5.03	5.09	37.59
Lane Group LOS	D	A	A	A	D
Critical Lane Group	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.82	0.20	1.59	1.61	0.82
50th-Percentile Queue Length [ft/ln]	20.62	4.94	39.79	40.16	20.38
95th-Percentile Queue Length [veh/ln]	1.48	0.36	2.86	2.89	1.47
95th-Percentile Queue Length [ft/ln]	37.12	8.89	71.62	72.29	36.68

Movement, Approach, & Intersection Results

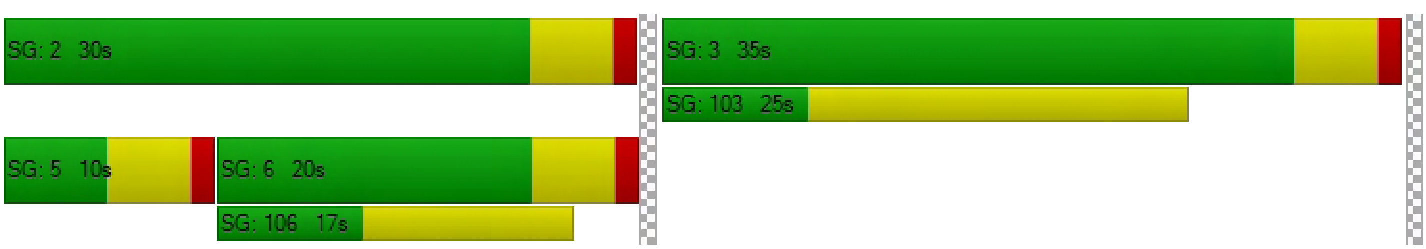
d_M, Delay for Movement [s/veh]	36.35	1.83	5.06	5.09	37.59	37.59
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	3.90		5.06		37.59	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	5.38					
Intersection LOS	A					
Intersection V/C	0.345					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.43	0.00	22.43
I_p,int, Pedestrian LOS Score for Intersection	2.788	0.000	1.765
Crosswalk LOS	C	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	32.50	32.50	32.50
I_b,int, Bicycle LOS Score for Intersection	4.792	4.836	4.207
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Scenario 8 Opening Year (Phase1) (EAGp)
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	State Street / Crows Nest Pl	Signalized	HCM 6th Edition	NB Left	0.364	17.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Signalized	Delay (sec / veh):	17.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	4	818	807	6	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	15	32	36
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	851	840	21	37	41
Peak Hour Factor	0.9153	0.9153	0.9153	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	232	229	6	10	11
Total Analysis Volume [veh/h]	24	930	918	23	40	45
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	4.0	4.0	4.0	0.0	4.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	15	55	40	0	30	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	7	7	0	7	0
Pedestrian Clearance [s]	0	13	10	0	18	0
Rest In Walk		Yes	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	3.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C
C, Cycle Length [s]	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	10	50	35	35	25
g / C, Green / Cycle	0.12	0.59	0.41	0.41	0.29
(v / s)_i Volume / Saturation Flow Rate	0.01	0.26	0.25	0.25	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1884	1701
c, Capacity [veh/h]	213	2128	782	776	500
d1, Uniform Delay [s]	33.53	9.70	19.55	19.60	22.29
k, delay calibration	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.07	0.65	3.41	3.51	0.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.44	0.60	0.61	0.17
d, Delay for Lane Group [s/veh]	34.60	10.35	22.95	23.11	23.03
Lane Group LOS	C	B	C	C	C
Critical Lane Group	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.49	4.19	7.34	7.37	1.34
50th-Percentile Queue Length [ft/ln]	12.22	104.74	183.46	184.32	33.38
95th-Percentile Queue Length [veh/ln]	0.88	7.54	11.78	11.83	2.40
95th-Percentile Queue Length [ft/ln]	22.00	188.54	294.53	295.65	60.09

Movement, Approach, & Intersection Results

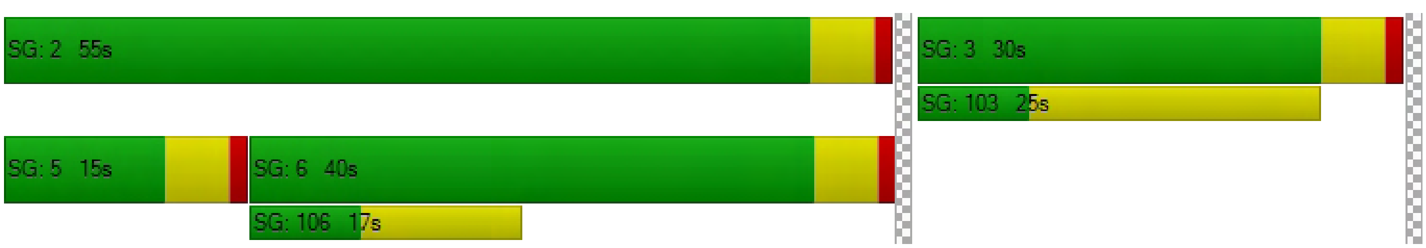
d_M, Delay for Movement [s/veh]	34.60	10.35	23.03	23.11	23.03	23.03
Movement LOS	C	B	C	C	C	C
d_A, Approach Delay [s/veh]	10.96		23.03		23.03	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	17.22					
Intersection LOS	B					
Intersection V/C	0.364					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	0.00	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.865	0.000	1.776
Crosswalk LOS	C	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	42.50	42.50	42.50
I_b,int, Bicycle LOS Score for Intersection	4.919	4.909	4.273
Bicycle LOS	E	E	E

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



OPENING YEAR (2021) PLUS PROJECT PLUS CUMULATIVE (EAGPC)
WITH IMPROVEMENTS

S2A Modular Manufacturing

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Report File: G:\...\AMOY1p_IMPRV.pdf

Scenario 7 Opening Year (Phase1) with Project

5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	State Street / Crows Nest Pl	Signalized	HCM 6th Edition	EB Right	0.388	5.4	A
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.605	20.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Signalized	Delay (sec / veh):	5.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.388

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	0	629	674	1	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	42	111	94	40	14	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	765	795	41	19	20
Peak Hour Factor	0.8702	0.8702	0.8702	0.8702	0.8702	0.8702
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	220	228	12	5	6
Total Analysis Volume [veh/h]	48	879	914	47	22	23
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	4.0	4.0	4.0	0.0	4.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	10	35	25	0	25	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	7	7	0	7	0
Pedestrian Clearance [s]	0	13	10	0	18	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	3.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	47	40	40	3
g / C, Green / Cycle	0.05	0.79	0.66	0.66	0.05
(v / s)_i Volume / Saturation Flow Rate	0.03	0.24	0.25	0.26	0.03
s, saturation flow rate [veh/h]	1810	3618	1900	1868	1705
c, Capacity [veh/h]	87	2849	1247	1226	79
d1, Uniform Delay [s]	28.01	1.79	4.75	4.78	28.11
k, delay calibration	0.11	0.50	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.35	0.28	0.90	0.94	6.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.31	0.39	0.39	0.57
d, Delay for Lane Group [s/veh]	33.35	2.07	5.66	5.72	34.49
Lane Group LOS	C	A	A	A	C
Critical Lane Group	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.75	0.22	1.83	1.85	0.74
50th-Percentile Queue Length [ft/ln]	18.73	5.59	45.87	46.32	18.57
95th-Percentile Queue Length [veh/ln]	1.35	0.40	3.30	3.33	1.34
95th-Percentile Queue Length [ft/ln]	33.71	10.06	82.57	83.37	33.43

Movement, Approach, & Intersection Results

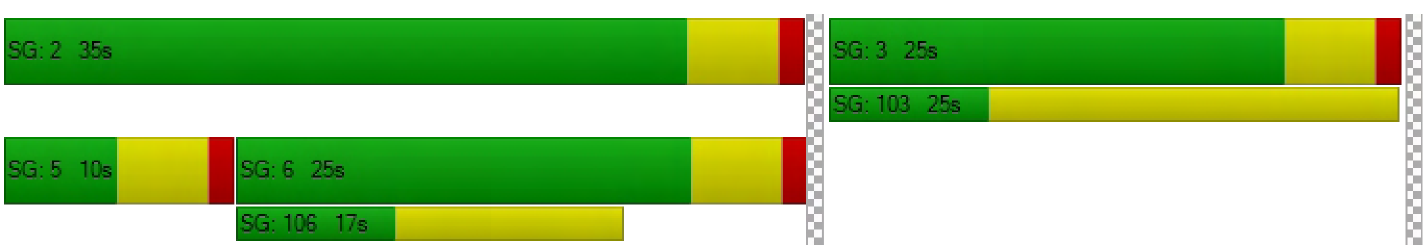
d_M, Delay for Movement [s/veh]	33.35	2.07	5.69	5.72	34.49	34.49
Movement LOS	C	A	A	A	C	C
d_A, Approach Delay [s/veh]	3.69		5.69		34.49	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	5.40					
Intersection LOS	A					
Intersection V/C	0.388					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	20.01	0.00	20.01
I_p,int, Pedestrian LOS Score for Intersection	2.834	0.000	1.761
Crosswalk LOS	C	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	30.00	30.00	30.00
I_b,int, Bicycle LOS Score for Intersection	4.897	4.925	4.207
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	24	531	63	110	516	34	69	176	43	22	187	138
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	75	5	2	108	7	57	32	16	23	6	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	627	71	116	645	42	129	215	61	46	201	152
Peak Hour Factor	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	182	21	34	187	12	37	62	18	13	58	44
Total Analysis Volume [veh/h]	43	728	82	135	749	49	150	250	71	53	234	177
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	25	0	18	32	0	0	32	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	28	28	7	32	32	20	20	20	20	20
g / C, Green / Cycle	0.04	0.40	0.40	0.10	0.45	0.45	0.29	0.29	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.02	0.22	0.22	0.07	0.21	0.21	0.13	0.18	0.05	0.12	0.11
s, saturation flow rate [veh/h]	1810	1900	1833	1810	1900	1859	1165	1829	1075	1900	1615
c, Capacity [veh/h]	76	757	730	176	861	843	292	531	222	552	469
d1, Uniform Delay [s]	32.95	16.21	16.21	30.88	13.30	13.30	28.21	21.41	29.16	20.13	19.82
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.33	2.81	2.91	6.82	1.83	1.87	1.39	1.11	0.55	0.52	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.54	0.54	0.77	0.47	0.47	0.51	0.60	0.24	0.42	0.38
d, Delay for Lane Group [s/veh]	39.28	19.02	19.12	37.70	15.13	15.17	29.61	22.52	29.71	20.65	20.33
Lane Group LOS	D	B	B	D	B	B	C	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.83	5.24	5.08	2.41	4.18	4.10	2.34	4.24	0.81	2.87	2.14
50th-Percentile Queue Length [ft/ln]	20.73	130.92	126.93	60.30	104.40	102.40	58.55	105.88	20.30	71.75	53.60
95th-Percentile Queue Length [veh/ln]	1.49	8.99	8.77	4.34	7.52	7.37	4.22	7.61	1.46	5.17	3.86
95th-Percentile Queue Length [ft/ln]	37.32	224.75	219.31	108.54	187.93	184.33	105.39	190.26	36.54	129.15	96.48

Movement, Approach, & Intersection Results

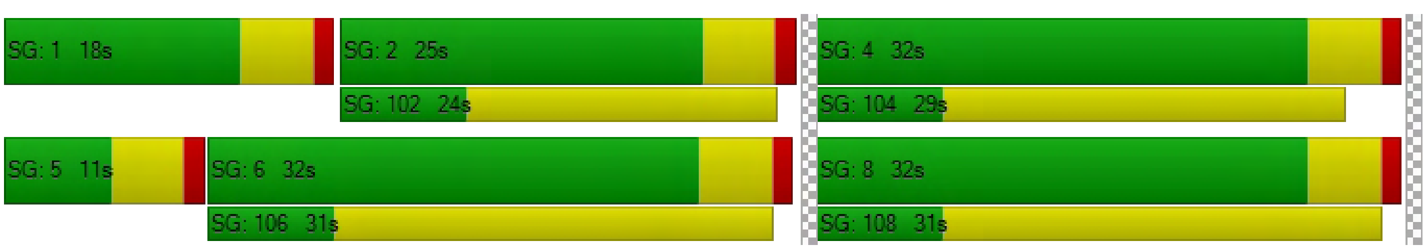
d_M, Delay for Movement [s/veh]	39.28	19.06	19.12	37.70	15.15	15.17	29.61	22.52	22.52	29.71	20.65	20.33
Movement LOS	D	B	B	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	20.09			18.41			24.78			21.56		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	20.58											
Intersection LOS	C											
Intersection V/C	0.605											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.795	3.083	2.272	2.420
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	771	771	771
d_b, Bicycle Delay [s]	17.86	13.21	13.21	13.21
I_b,int, Bicycle LOS Score for Intersection	2.263	2.329	2.337	2.325
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



S2A Modular Manufacturing

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Scenario 7 Opening Year (Phase1) with Project

5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	State Street / Crows Nest Pl	Signalized	HCM 6th Edition	NB Left	0.430	19.8	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.645	27.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.430

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	4	818	807	6	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	193	195	15	32	36
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	1044	1035	21	37	41
Peak Hour Factor	0.9153	0.9153	0.9153	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	285	283	6	10	11
Total Analysis Volume [veh/h]	24	1141	1131	23	40	45
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	4.0	4.0	4.0	0.0	4.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	15	55	40	0	30	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	7	7	0	7	0
Pedestrian Clearance [s]	0	13	10	0	18	0
Rest In Walk		Yes	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	3.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C
C, Cycle Length [s]	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	10	50	35	35	25
g / C, Green / Cycle	0.12	0.59	0.41	0.41	0.29
(v / s)_i Volume / Saturation Flow Rate	0.01	0.32	0.30	0.31	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1887	1701
c, Capacity [veh/h]	213	2128	782	777	500
d1, Uniform Delay [s]	33.53	10.53	21.12	21.18	22.29
k, delay calibration	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.07	0.97	6.14	6.34	0.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.54	0.74	0.74	0.17
d, Delay for Lane Group [s/veh]	34.60	11.50	27.26	27.53	23.03
Lane Group LOS	C	B	C	C	C
Critical Lane Group	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.49	5.61	10.08	10.14	1.34
50th-Percentile Queue Length [ft/ln]	12.22	140.20	251.97	253.46	33.38
95th-Percentile Queue Length [veh/ln]	0.88	9.49	15.29	15.36	2.40
95th-Percentile Queue Length [ft/ln]	22.00	237.30	382.13	384.01	60.09

Movement, Approach, & Intersection Results

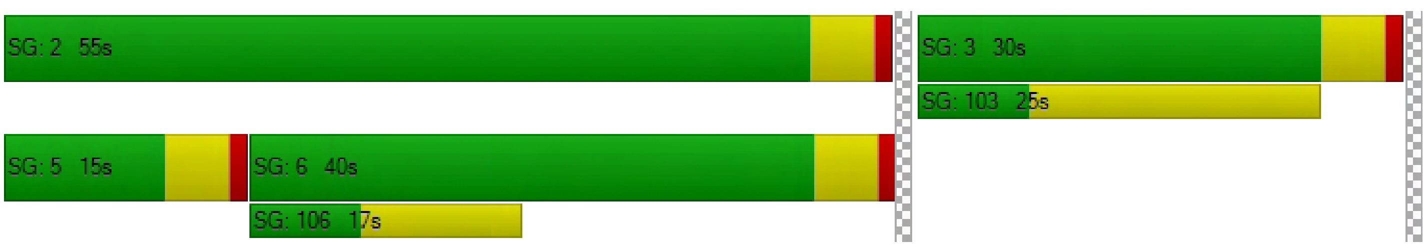
d_M, Delay for Movement [s/veh]	34.60	11.50	27.39	27.53	23.03	23.03
Movement LOS	C	B	C	C	C	C
d_A, Approach Delay [s/veh]	11.98		27.39		23.03	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	19.77					
Intersection LOS	B					
Intersection V/C	0.430					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	0.00	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.957	0.000	1.776
Crosswalk LOS	C	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	42.50	42.50	42.50
I_b,int, Bicycle LOS Score for Intersection	5.094	5.084	4.273
Bicycle LOS	F	F	E

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	29	612	76	127	694	98	63	248	33	52	222	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	119	6	9	193	19	91	57	17	55	9	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	756	85	141	915	121	157	315	51	109	240	121
Peak Hour Factor	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	208	23	39	252	33	43	87	14	30	66	33
Total Analysis Volume [veh/h]	53	833	94	155	1008	133	173	347	56	120	264	133
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	30	0	20	40	0	0	35	0	0	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	32	32	9	37	37	29	29	29	29	29
g / C, Green / Cycle	0.04	0.37	0.37	0.11	0.43	0.43	0.35	0.35	0.35	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.03	0.25	0.25	0.09	0.31	0.31	0.15	0.22	0.12	0.14	0.08
s, saturation flow rate [veh/h]	1810	1900	1833	1810	1900	1824	1133	1855	998	1900	1615
c, Capacity [veh/h]	77	702	677	193	824	791	336	644	231	660	561
d1, Uniform Delay [s]	40.15	22.48	22.48	37.11	19.65	19.69	30.39	23.13	35.23	21.03	19.73
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.16	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.29	5.08	5.25	7.58	5.04	5.32	1.22	1.43	1.81	0.39	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.67	0.67	0.80	0.71	0.71	0.51	0.63	0.52	0.40	0.24
d, Delay for Lane Group [s/veh]	50.43	27.56	27.74	44.70	24.69	25.01	31.61	24.57	37.04	21.42	19.95
Lane Group LOS	D	C	C	D	C	C	C	C	D	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.30	8.51	8.24	3.42	9.53	9.26	3.19	6.48	2.41	3.78	1.79
50th-Percentile Queue Length [ft/ln]	32.45	212.73	206.09	85.45	238.29	231.53	79.72	162.10	60.35	94.50	44.66
95th-Percentile Queue Length [veh/ln]	2.34	13.29	12.95	6.15	14.59	14.25	5.74	10.66	4.35	6.80	3.22
95th-Percentile Queue Length [ft/ln]	58.41	332.32	323.80	153.82	364.87	356.30	143.50	266.50	108.63	170.10	80.39

Movement, Approach, & Intersection Results

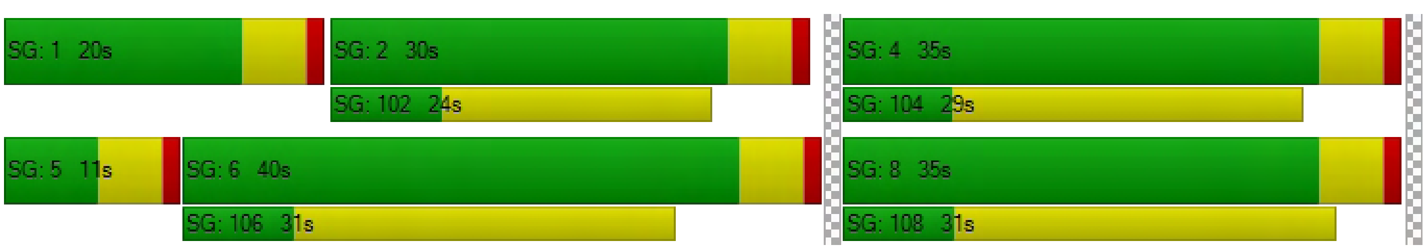
d_M, Delay for Movement [s/veh]	50.43	27.63	27.74	44.70	24.82	25.01	31.61	24.57	24.57	37.04	21.42	19.95
Movement LOS	D	C	C	D	C	C	C	C	C	D	C	B
d_A, Approach Delay [s/veh]	28.88			27.22			26.68			24.67		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.22											
Intersection LOS	C											
Intersection V/C	0.645											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.972	3.223	2.381	2.489
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	588	824	706	706
d_b, Bicycle Delay [s]	21.18	14.71	17.79	17.79
I_b,int, Bicycle LOS Score for Intersection	2.368	2.629	2.510	2.413
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



COMPLETION YEAR (2024) PLUS PROJECT (EAGP)

WITH IMPROVEMENTS

S2A Modular Manufacturing

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Report File: G:\...\AMEAG2p_IMPRV.pdf

Scenario 5 Opening Year (Phase2) (EAGp)
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	State Street / Crows Nest Pl	Signalized	HCM 6th Edition	EB Left	0.438	8.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.438

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	0	629	674	1	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	96	0	0	90	28	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	694	744	91	34	33
Peak Hour Factor	0.8702	0.8702	0.8702	0.8702	0.8702	0.8702
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	199	214	26	10	9
Total Analysis Volume [veh/h]	110	798	855	105	39	38
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	4.0	4.0	4.0	0.0	4.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	15	45	30	0	30	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	7	7	0	7	0
Pedestrian Clearance [s]	0	13	10	0	18	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	3.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C
C, Cycle Length [s]	75	75	75	75	75
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	6	61	50	50	4
g / C, Green / Cycle	0.08	0.81	0.66	0.66	0.06
(v / s)_i Volume / Saturation Flow Rate	0.06	0.22	0.25	0.26	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1829	1708
c, Capacity [veh/h]	144	2920	1256	1209	102
d1, Uniform Delay [s]	33.87	1.79	5.78	5.85	34.77
k, delay calibration	0.11	0.50	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.07	0.23	0.88	0.98	10.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.27	0.38	0.40	0.75
d, Delay for Lane Group [s/veh]	41.94	2.02	6.66	6.83	45.48
Lane Group LOS	D	A	A	A	D
Critical Lane Group	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	2.18	0.44	2.69	2.74	1.65
50th-Percentile Queue Length [ft/ln]	54.53	10.92	67.21	68.49	41.32
95th-Percentile Queue Length [veh/ln]	3.93	0.79	4.84	4.93	2.98
95th-Percentile Queue Length [ft/ln]	98.15	19.66	120.98	123.28	74.38

Movement, Approach, & Intersection Results

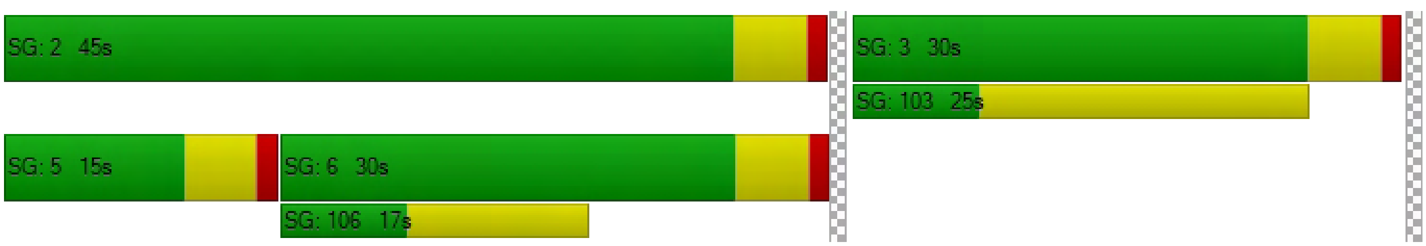
d_M, Delay for Movement [s/veh]	41.94	2.02	6.74	6.83	45.48	45.48
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.86		6.75		45.48	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.33					
Intersection LOS	A					
Intersection V/C	0.438					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	27.31	0.00	27.31
I_p,int, Pedestrian LOS Score for Intersection	2.833	0.000	1.847
Crosswalk LOS	C	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	37.50	37.50	37.50
I_b,int, Bicycle LOS Score for Intersection	4.882	4.924	4.259
Bicycle LOS	E	E	E

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



S2A Modular Manufacturing

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Scenario 5 Opening Year (Phase2) (EAGp)
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	State Street / Crows Nest Pl	Signalized	HCM 6th Edition	NB Left	0.466	18.6	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.466

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	4	818	807	6	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	0	32	72	79
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	903	891	39	78	85
Peak Hour Factor	0.9153	0.9153	0.9153	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	247	243	11	21	23
Total Analysis Volume [veh/h]	44	987	973	43	85	93
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	4.0	4.0	4.0	0.0	4.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	15	55	40	0	30	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	7	7	0	7	0
Pedestrian Clearance [s]	0	13	10	0	18	0
Rest In Walk		Yes	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	3.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C
C, Cycle Length [s]	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	10	50	35	35	25
g / C, Green / Cycle	0.12	0.59	0.41	0.41	0.29
(v / s)_i Volume / Saturation Flow Rate	0.02	0.27	0.27	0.27	0.10
s, saturation flow rate [veh/h]	1810	3618	1900	1872	1702
c, Capacity [veh/h]	213	2128	782	771	501
d1, Uniform Delay [s]	33.91	9.91	20.07	20.18	23.65
k, delay calibration	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.19	0.73	4.15	4.39	1.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.46	0.65	0.66	0.36
d, Delay for Lane Group [s/veh]	36.10	10.64	24.22	24.57	25.62
Lane Group LOS	D	B	C	C	C
Critical Lane Group	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.92	4.55	8.22	8.30	3.01
50th-Percentile Queue Length [ft/ln]	22.96	113.71	205.45	207.39	75.34
95th-Percentile Queue Length [veh/ln]	1.65	8.05	12.92	13.02	5.42
95th-Percentile Queue Length [ft/ln]	41.33	201.15	322.99	325.48	135.62

Movement, Approach, & Intersection Results

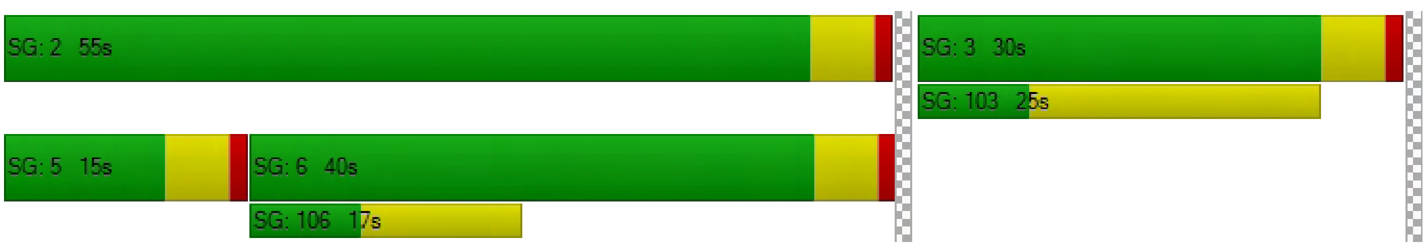
d_M, Delay for Movement [s/veh]	36.10	10.64	24.39	24.57	25.62	25.62
Movement LOS	D	B	C	C	C	C
d_A, Approach Delay [s/veh]	11.73		24.40		25.62	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	18.62					
Intersection LOS	B					
Intersection V/C	0.466					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	0.00	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.904	0.000	1.841
Crosswalk LOS	C	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	42.50	42.50	42.50
I_b,int, Bicycle LOS Score for Intersection	4.983	4.971	4.426
Bicycle LOS	E	E	E

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



COMPLETION YEAR (2024) PLUS PROJECT PLUS CUMULATIVE (EAGPC) WITH IMPROVEMENTS

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Scenario 4 Opening Year (Phase2) with Project

5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	State Street / Crows Nest Pl	Signalized	HCM 6th Edition	EB Left	0.462	8.4	A
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.655	21.7	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Signalized	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	0	629	674	1	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	96	111	94	90	28	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	805	838	91	34	33
Peak Hour Factor	0.8702	0.8702	0.8702	0.8702	0.8702	0.8702
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	231	241	26	10	9
Total Analysis Volume [veh/h]	110	925	963	105	39	38
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	4.0	4.0	4.0	0.0	4.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	15	50	35	0	35	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	7	7	0	7	0
Pedestrian Clearance [s]	0	13	10	0	18	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	3.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C
C, Cycle Length [s]	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	7	70	58	58	5
g / C, Green / Cycle	0.08	0.82	0.69	0.69	0.06
(v / s)_i Volume / Saturation Flow Rate	0.06	0.26	0.28	0.29	0.05
s, saturation flow rate [veh/h]	1810	3618	1900	1836	1708
c, Capacity [veh/h]	142	2977	1303	1259	102
d1, Uniform Delay [s]	38.45	1.79	5.85	5.93	39.40
k, delay calibration	0.11	0.50	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.61	0.27	0.96	1.05	10.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.31	0.41	0.42	0.76
d, Delay for Lane Group [s/veh]	47.06	2.06	6.80	6.98	50.29
Lane Group LOS	D	A	A	A	D
Critical Lane Group	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	2.50	0.63	3.37	3.43	1.87
50th-Percentile Queue Length [ft/ln]	62.50	15.74	84.14	85.70	46.68
95th-Percentile Queue Length [veh/ln]	4.50	1.13	6.06	6.17	3.36
95th-Percentile Queue Length [ft/ln]	112.49	28.34	151.46	154.26	84.02

Movement, Approach, & Intersection Results

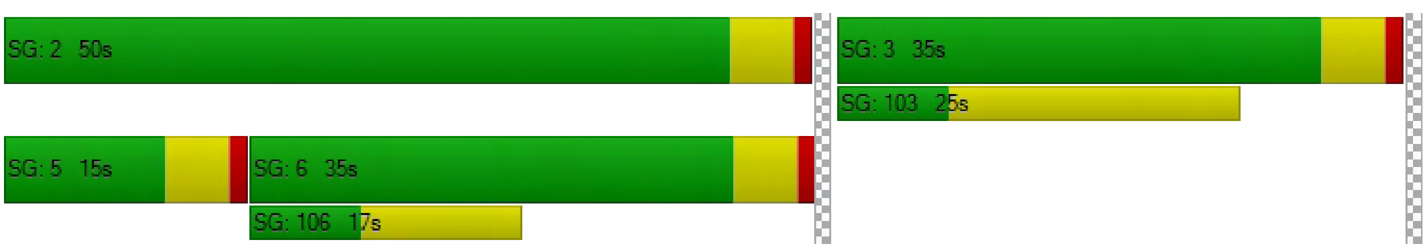
d_M, Delay for Movement [s/veh]	47.06	2.06	6.88	6.98	50.29	50.29
Movement LOS	D	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.85		6.89		50.29	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.40					
Intersection LOS	A					
Intersection V/C	0.462					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	0.00	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.891	0.000	1.854
Crosswalk LOS	C	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	42.50	42.50	42.50
I_b,int, Bicycle LOS Score for Intersection	4.986	5.014	4.259
Bicycle LOS	E	F	E

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.655

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			40.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	24	531	63	110	516	34	69	176	43	22	187	138
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	117	5	3	118	8	61	32	16	23	6	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	703	75	124	688	46	137	226	63	47	212	166
Peak Hour Factor	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607	0.8607
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	204	22	36	200	13	40	66	18	14	62	48
Total Analysis Volume [veh/h]	44	817	87	144	799	53	159	263	73	55	246	193
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	25	0	18	32	0	0	32	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	27	27	7	31	31	21	21	21	21	21
g / C, Green / Cycle	0.04	0.38	0.38	0.10	0.44	0.44	0.30	0.30	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.02	0.24	0.24	0.08	0.23	0.23	0.14	0.18	0.05	0.13	0.12
s, saturation flow rate [veh/h]	1810	1900	1837	1810	1900	1859	1152	1830	1061	1900	1615
c, Capacity [veh/h]	78	723	699	186	837	819	301	554	228	575	489
d1, Uniform Delay [s]	32.93	17.75	17.75	30.65	14.19	14.19	27.89	20.89	28.74	19.59	19.37
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.37	4.24	4.38	6.64	2.25	2.30	1.44	1.08	0.54	0.50	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.64	0.64	0.77	0.51	0.51	0.53	0.61	0.24	0.43	0.39
d, Delay for Lane Group [s/veh]	39.30	21.99	22.13	37.30	16.44	16.49	29.32	21.97	29.28	20.10	19.89
Lane Group LOS	D	C	C	D	B	B	C	C	C	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.85	6.41	6.23	2.56	4.73	4.64	2.48	4.37	0.84	2.97	2.31
50th-Percentile Queue Length [ft/ln]	21.20	160.33	155.67	63.89	118.16	115.88	61.89	109.37	20.89	74.26	57.80
95th-Percentile Queue Length [veh/ln]	1.53	10.57	10.32	4.60	8.29	8.17	4.46	7.80	1.50	5.35	4.16
95th-Percentile Queue Length [ft/ln]	38.16	264.16	257.98	114.99	207.29	204.14	111.40	195.12	37.59	133.67	104.04

Movement, Approach, & Intersection Results

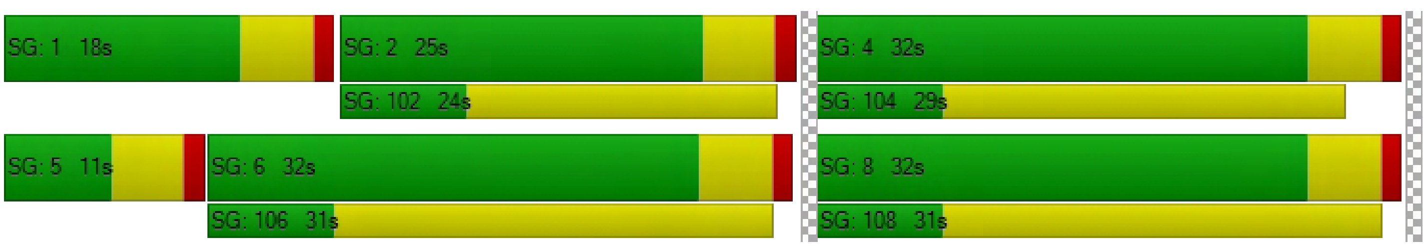
d_M, Delay for Movement [s/veh]	39.30	22.05	22.13	37.30	16.46	16.49	29.32	21.97	21.97	29.28	20.10	19.89
Movement LOS	D	C	C	D	B	B	C	C	C	C	C	B
d_A, Approach Delay [s/veh]	22.86			19.48			24.33			21.04		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	21.65											
Intersection LOS	C											
Intersection V/C	0.655											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.822	3.134	2.290	2.438
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	771	771	771
d_b, Bicycle Delay [s]	17.86	13.21	13.21	13.21
I_b,int, Bicycle LOS Score for Intersection	2.342	2.381	2.376	2.375
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



S2A Modular Manufacturing

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Report File: G:\...\PMOY2p_IMPRV.pdf | 5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	State Street / Crows Nest Pl	Signalized	HCM 6th Edition	NB Left	0.531	21.5	C
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.688	30.0	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 2: State Street / Crows Nest Pl

Control Type:	Signalized	Delay (sec / veh):	21.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.531

Intersection Setup

Name	State St		State St		Crows Nest Pl	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	State St		State St		Crows Nest Pl	
Base Volume Input [veh/h]	4	818	807	6	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	193	195	32	72	79
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1096	1086	39	78	85
Peak Hour Factor	0.9153	0.9153	0.9153	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	299	297	11	21	23
Total Analysis Volume [veh/h]	44	1197	1186	43	85	93
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	4.0	4.0	4.0	0.0	4.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	15	55	40	0	30	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	7	7	0	7	0
Pedestrian Clearance [s]	0	13	10	0	18	0
Rest In Walk		Yes	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	3.0	0.0	3.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C
C, Cycle Length [s]	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	10	50	35	35	25
g / C, Green / Cycle	0.12	0.59	0.41	0.41	0.29
(v / s)_i Volume / Saturation Flow Rate	0.02	0.33	0.32	0.33	0.10
s, saturation flow rate [veh/h]	1810	3618	1900	1877	1702
c, Capacity [veh/h]	213	2128	782	773	501
d1, Uniform Delay [s]	33.91	10.77	21.74	21.86	23.65
k, delay calibration	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.19	1.08	7.79	8.29	1.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.56	0.79	0.80	0.36
d, Delay for Lane Group [s/veh]	36.10	11.85	29.53	30.16	25.62
Lane Group LOS	D	B	C	C	C
Critical Lane Group	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.92	6.03	11.28	11.42	3.01
50th-Percentile Queue Length [ft/ln]	22.96	150.76	281.92	285.51	75.34
95th-Percentile Queue Length [veh/ln]	1.65	10.06	16.78	16.96	5.42
95th-Percentile Queue Length [ft/ln]	41.33	251.44	419.60	424.07	135.62

Movement, Approach, & Intersection Results

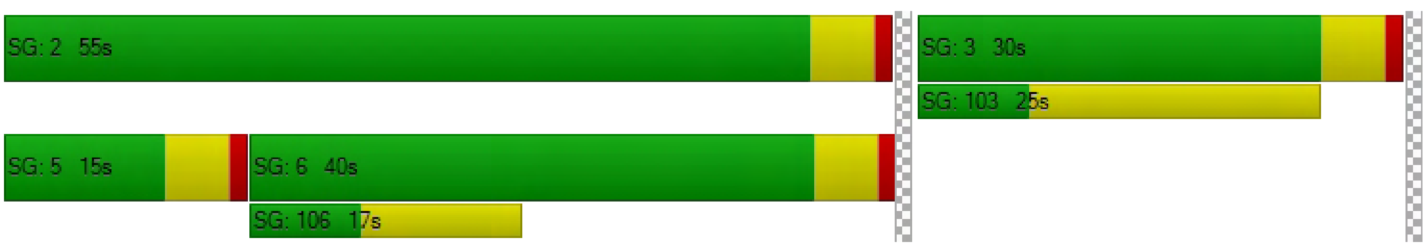
d_M, Delay for Movement [s/veh]	36.10	11.85	29.83	30.16	25.62	25.62
Movement LOS	D	B	C	C	C	C
d_A, Approach Delay [s/veh]	12.71		29.84		25.62	
Approach LOS	B		C		C	
d_I, Intersection Delay [s/veh]	21.53					
Intersection LOS	C					
Intersection V/C	0.531					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	0.00	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.995	0.000	1.841
Crosswalk LOS	C	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	42.50	42.50	42.50
I_b,int, Bicycle LOS Score for Intersection	5.156	5.146	4.426
Bicycle LOS	F	F	E

Sequence

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: State Street / Menlo Avenue

Control Type:	Signalized	Delay (sec / veh):	30.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.688

Intersection Setup

Name	State St			State St			Menlo Ave			Menlo Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			40.00			40.00			40.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No			No			No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name	State St			State St			Menlo Ave			Menlo Ave		
Base Volume Input [veh/h]	29	612	76	127	694	98	63	248	33	52	222	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	131	6	16	222	24	93	57	17	55	9	7
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	807	90	156	988	132	163	331	53	112	254	131
Peak Hour Factor	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	222	25	43	272	36	45	91	15	31	70	36
Total Analysis Volume [veh/h]	55	889	99	172	1088	145	180	365	58	123	280	144
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	30	0	20	40	0	0	35	0	0	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	24	0	0	24	0	0	22	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	30	30	10	36	36	31	31	31	31	31
g / C, Green / Cycle	0.04	0.35	0.35	0.12	0.42	0.42	0.36	0.36	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.03	0.26	0.26	0.10	0.33	0.33	0.16	0.23	0.13	0.15	0.09
s, saturation flow rate [veh/h]	1810	1900	1834	1810	1900	1823	1117	1855	979	1900	1615
c, Capacity [veh/h]	78	659	637	211	799	766	339	668	231	684	582
d1, Uniform Delay [s]	40.14	24.64	24.64	36.68	21.32	21.40	30.26	22.54	35.21	20.41	19.11
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.18	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.01	8.14	8.41	7.55	7.62	8.19	1.30	1.63	1.91	0.39	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.76	0.76	0.82	0.78	0.79	0.53	0.63	0.53	0.41	0.25
d, Delay for Lane Group [s/veh]	51.15	32.78	33.06	44.23	28.94	29.59	31.55	24.17	37.12	20.80	19.33
Lane Group LOS	D	C	C	D	C	C	C	C	D	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.36	10.04	9.75	3.77	11.35	11.12	3.33	6.76	2.48	3.95	1.90
50th-Percentile Queue Length [ft/ln]	33.92	251.10	243.66	94.35	283.81	278.11	83.13	169.04	62.05	98.66	47.48
95th-Percentile Queue Length [veh/ln]	2.44	15.24	14.87	6.79	16.88	16.59	5.99	11.03	4.47	7.10	3.42
95th-Percentile Queue Length [ft/ln]	61.06	381.04	371.66	169.82	421.95	414.86	149.63	275.65	111.70	177.58	85.47

Movement, Approach, & Intersection Results

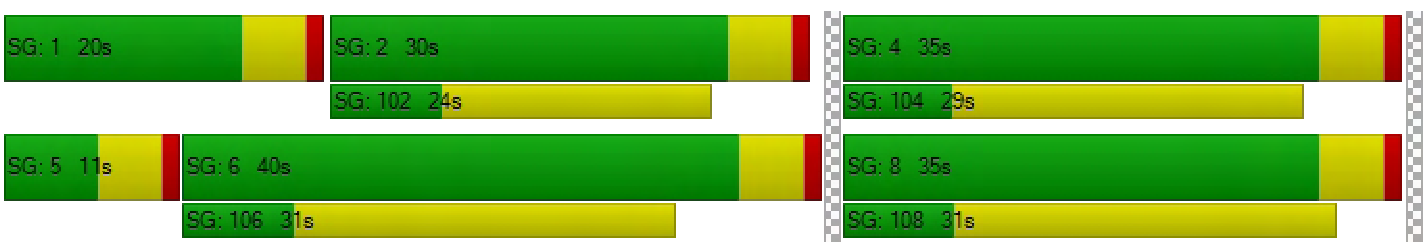
d_M, Delay for Movement [s/veh]	51.15	32.90	33.06	44.23	29.22	29.59	31.55	24.17	24.17	37.12	20.80	19.33
Movement LOS	D	C	C	D	C	C	C	C	C	D	C	B
d_A, Approach Delay [s/veh]	33.88			31.09			26.37			24.08		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	30.04											
Intersection LOS	C											
Intersection V/C	0.688											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	3.000	3.273	2.406	2.512
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	588	824	706	706
d_b, Bicycle Delay [s]	21.18	14.71	17.79	17.79
I_b,int, Bicycle LOS Score for Intersection	2.420	2.719	2.555	2.462
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX E

TRAFFIC SIGNAL WARRANT WORKSHEETS

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing Plus Project

Phase 1

Major Street Name = **State Street**

Total of Both Approaches (VPH) = **1668**

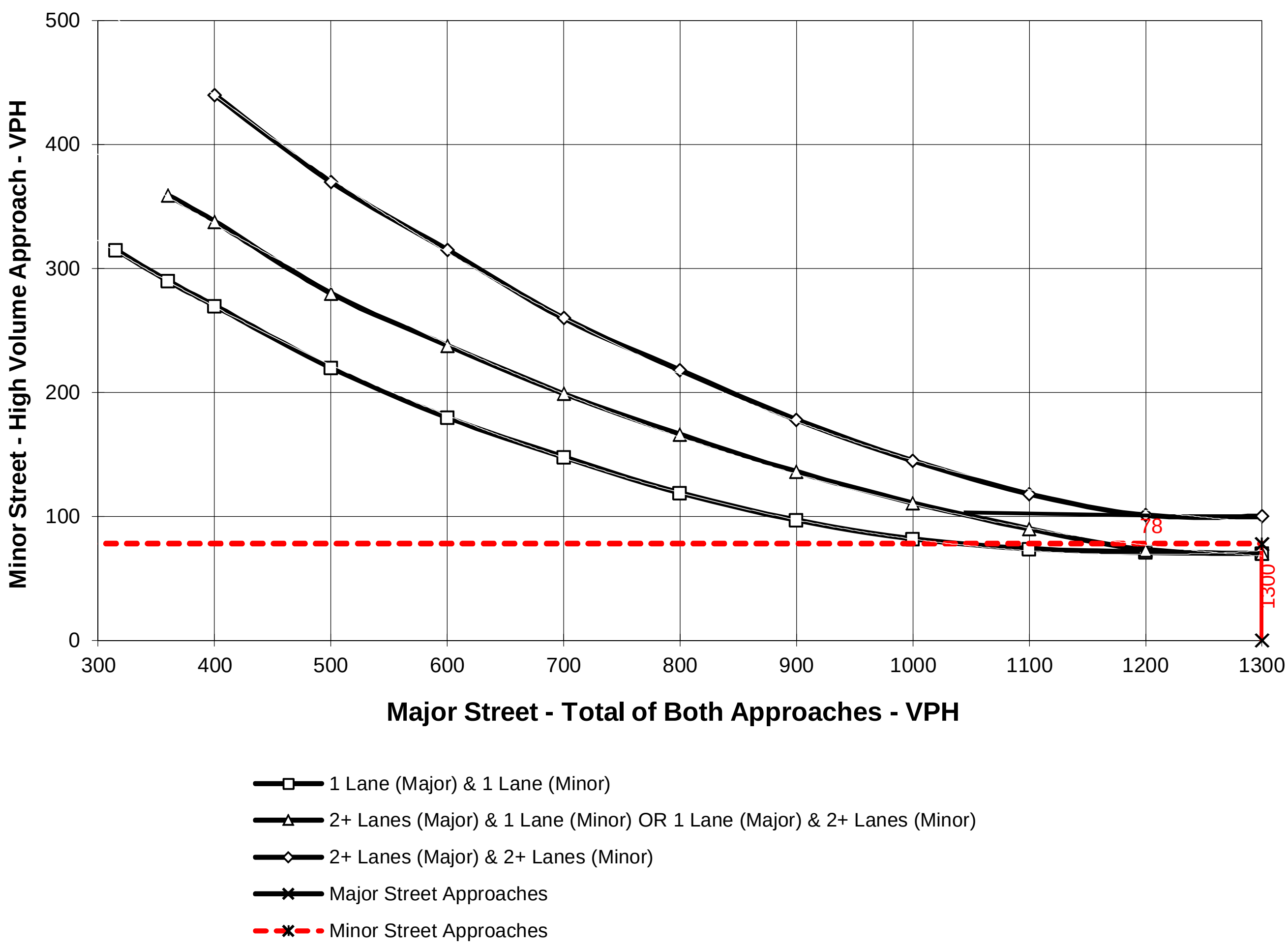
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Crows Nest Place**

High Volume Approach (VPH) = **78**

Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



** NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing Plus Project
Phase 2

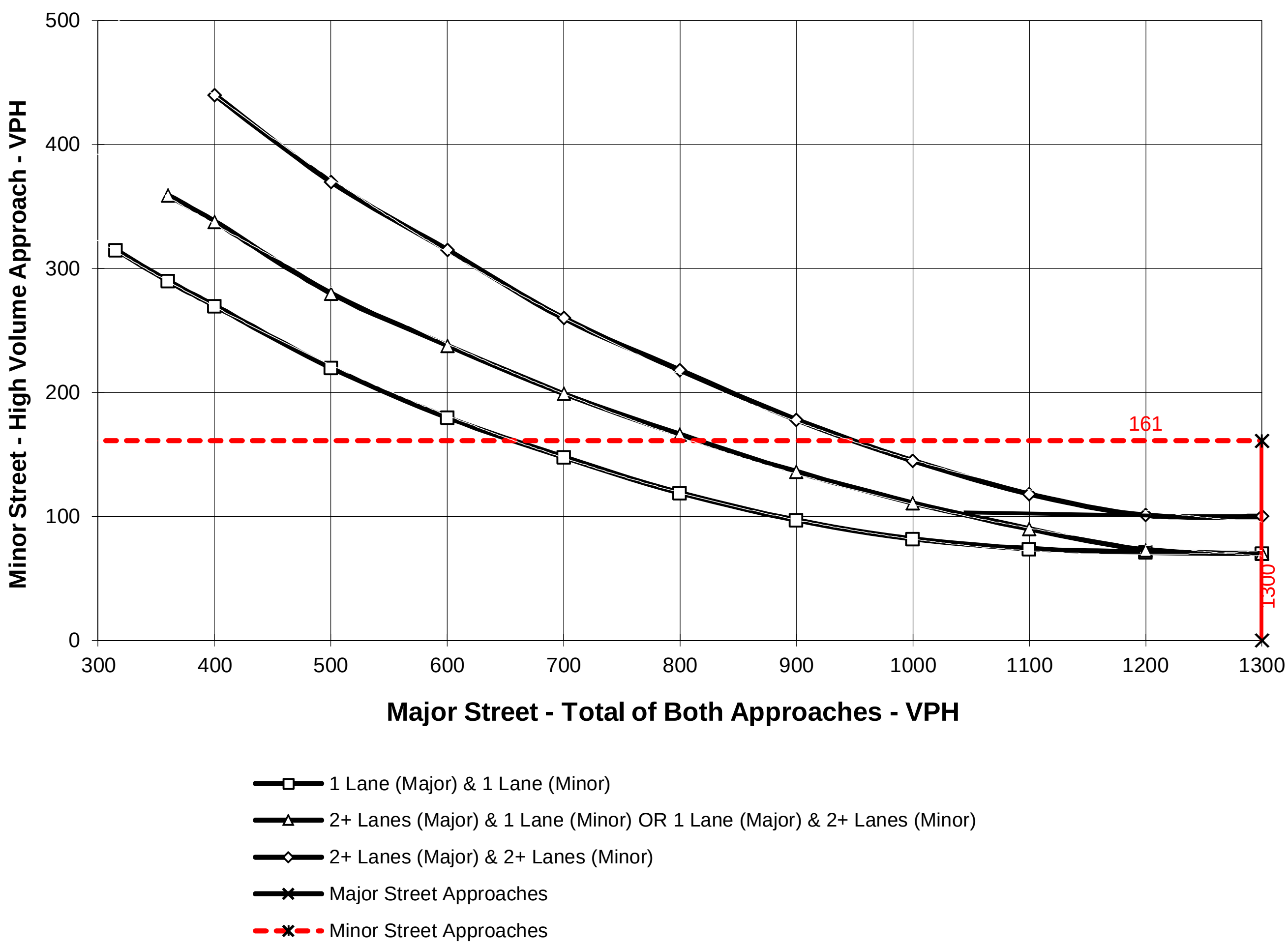
Major Street Name = **State Street**

Total of Both Approaches (VPH) = **1703**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Crows Nest Place**

High Volume Approach (VPH) = **161**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

APPENDIX F

LEVEL OF SERVICE WORKSHEETS - CALTRANS

EXISTING

S2A Modular Manufacturing

Vistro File: G:\...\AM.vistro
Report File: G:\...\AME.pdf

Scenario 1 Existing
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.518	21.4	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.030	23.6	C
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.451	12.1	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.698	31.8	C
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	SB Left	0.373	16.1	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	EB Left	0.574	22.3	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	┐‖├			┐‖┌			┐‖├			┐‖├		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	101	18	28	81	24	26	199	10	13	221	13
Total Analysis Volume [veh/h]	41	405	71	111	324	97	102	798	39	51	884	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	16	34	0	14	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	29	29	29	29	29	29	5	23	23	3	21	21
g / C, Green / Cycle	0.42	0.42	0.42	0.42	0.42	0.42	0.07	0.32	0.32	0.05	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.13	0.13	0.12	0.17	0.06	0.06	0.22	0.22	0.03	0.25	0.25
s, saturation flow rate [veh/h]	1073	1900	1803	933	1900	1615	1810	1900	1869	1810	1900	1862
c, Capacity [veh/h]	387	793	752	382	793	674	136	612	602	85	559	548
d1, Uniform Delay [s]	19.67	13.66	13.68	19.52	14.36	12.68	31.80	20.70	20.70	32.79	23.27	23.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.55	1.00	1.07	1.92	1.56	0.45	8.11	1.39	1.42	6.75	3.66	3.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.11	0.31	0.31	0.29	0.41	0.14	0.75	0.69	0.69	0.60	0.85	0.85
d, Delay for Lane Group [s/veh]	20.22	14.66	14.75	21.44	15.92	13.12	39.91	22.10	22.12	39.54	26.93	27.00
Lane Group LOS	C	B	B	C	B	B	D	C	C	D	C	C
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.53	2.44	2.36	1.50	3.46	0.91	1.92	5.71	5.62	0.97	7.27	7.14
50th-Percentile Queue Length [ft/ln]	13.14	61.11	59.05	37.45	86.58	22.70	47.93	142.71	140.48	24.24	181.76	178.43
95th-Percentile Queue Length [veh/ln]	0.95	4.40	4.25	2.70	6.23	1.63	3.45	9.63	9.51	1.75	11.69	11.52
95th-Percentile Queue Length [ft/ln]	23.64	110.00	106.29	67.41	155.85	40.87	86.28	240.66	237.67	43.64	292.31	287.97

Movement, Approach, & Intersection Results

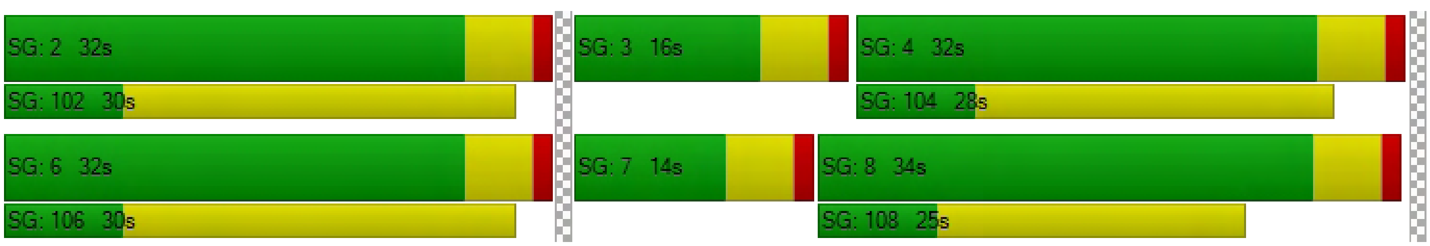
d_M, Delay for Movement [s/veh]	20.22	14.70	14.75	21.44	15.92	13.12	39.91	22.11	22.12	39.54	26.96	27.00
Movement LOS	C	B	B	C	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	15.14			16.57			24.04			27.61		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	22.35											
Intersection LOS	C											
Intersection V/C	0.574											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.86	24.86	24.86	24.86
I_p,int, Pedestrian LOS Score for Intersection	2.420	2.676	2.790	2.892
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	771	771	829	771
d_b, Bicycle Delay [s]	13.21	13.21	12.01	13.21
I_b,int, Bicycle LOS Score for Intersection	1.986	2.437	2.334	2.375
Bicycle LOS	A	B	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



S2A Modular Manufacturing

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Scenario 1 Existing
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.666	27.1	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.034	30.4	D
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.468	11.0	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.755	41.1	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	NB Left	0.398	16.4	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Right	0.662	29.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.662

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Peak Hour Factor	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	96	20	40	90	47	37	293	16	26	280	22
Total Analysis Volume [veh/h]	54	383	81	160	361	189	147	1170	63	104	1119	89
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	12	38	0	10	36	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	31	31	31	31	31	31	39	30	30	39	29	29
g / C, Green / Cycle	0.39	0.39	0.39	0.39	0.39	0.39	0.49	0.37	0.37	0.49	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.13	0.17	0.19	0.12	0.19	0.33	0.33	0.14	0.32	0.32
s, saturation flow rate [veh/h]	1037	1900	1787	943	1900	1615	763	1900	1866	720	1900	1851
c, Capacity [veh/h]	321	734	691	352	734	624	361	701	689	343	678	661
d1, Uniform Delay [s]	25.50	17.22	17.25	25.17	18.60	17.06	16.62	23.66	23.70	16.20	24.41	24.44
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.28	0.28	0.11	0.29	0.29
I, Upstream Filtering 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
d2, Incremental Delay [s]	1.13	1.17	1.27	4.20	2.35	1.25	0.74	9.39	9.79	0.49	11.11	11.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.17	0.32	0.33	0.46	0.49	0.30	0.41	0.89	0.89	0.30	0.90	0.90
d, Delay for Lane Group [s/veh]	26.63	18.39	18.52	29.37	20.95	18.31	17.36	33.05	33.48	16.69	35.52	36.10
Lane Group LOS	C	B	B	C	C	B	B	C	C	B	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.89	3.03	2.91	2.86	5.07	2.42	1.40	11.89	11.80	0.96	12.16	11.99
50th-Percentile Queue Length [ft/ln]	22.37	75.87	72.82	71.56	126.71	60.52	34.89	297.35	295.10	23.96	303.89	299.75
95th-Percentile Queue Length [veh/ln]	1.61	5.46	5.24	5.15	8.76	4.36	2.51	17.55	17.44	1.73	17.87	17.67
95th-Percentile Queue Length [ft/ln]	40.26	136.56	131.08	128.80	219.02	108.93	62.80	438.75	435.96	43.13	446.83	441.72

Movement, Approach, & Intersection Results

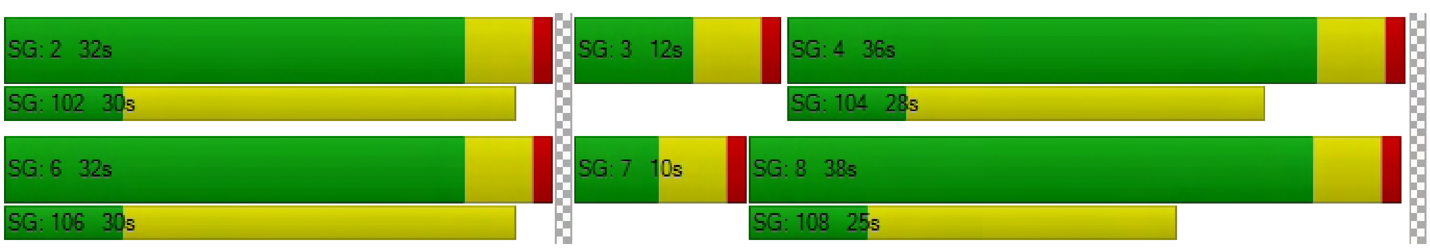
d_M, Delay for Movement [s/veh]	26.63	18.44	18.52	29.37	20.95	18.31	17.36	33.25	33.48	16.69	35.79	36.10
Movement LOS	C	B	B	C	C	B	B	C	C	B	D	D
d_A, Approach Delay [s/veh]	19.30			22.14			31.57			34.29		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	29.15											
Intersection LOS	C											
Intersection V/C	0.662											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.523	2.814	2.994	3.140
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	675	675	825	775
d_b, Bicycle Delay [s]	17.56	17.56	13.81	15.01
I_b,int, Bicycle LOS Score for Intersection	1.987	2.731	2.698	2.642
Bicycle LOS	A	B	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



EXISTING PLUS PROJECT

S2A Modular Manufacturing

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Scenario 2 Existing Plus Project
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.529	24.3	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.336	49.1	E
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.489	12.2	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.697	36.9	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	SB Left	0.393	16.5	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Left	0.587	25.9	C
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	NB Thru	0.000	10.0	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.017	9.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	25.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.587

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	┐│├			┐│┌			┐│├			┐│├		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	35	0	3	10	6	21	0	0	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	387	62	100	292	90	110	694	34	44	769	56
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	111	18	29	84	26	32	199	10	13	221	16
Total Analysis Volume [veh/h]	41	445	71	115	336	103	126	798	39	51	884	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	16	34	0	14	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	35	35	35	35	35	35	7	27	27	3	23	23
g / C, Green / Cycle	0.43	0.43	0.43	0.43	0.43	0.43	0.09	0.33	0.33	0.04	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.14	0.14	0.13	0.18	0.06	0.07	0.22	0.22	0.03	0.25	0.25
s, saturation flow rate [veh/h]	1061	1900	1810	899	1900	1615	1810	1900	1869	1810	1900	1855
c, Capacity [veh/h]	395	825	786	375	825	701	162	636	626	79	549	536
d1, Uniform Delay [s]	21.14	14.88	14.90	21.39	15.57	13.69	35.68	22.79	22.79	37.68	27.09	27.09
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.19	0.19
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.53	1.02	1.08	2.10	1.49	0.44	7.79	1.20	1.22	8.41	7.45	7.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.10	0.32	0.32	0.31	0.41	0.15	0.78	0.66	0.66	0.64	0.87	0.87
d, Delay for Lane Group [s/veh]	21.67	15.90	15.98	23.49	17.06	14.13	43.47	23.98	24.00	46.08	34.54	34.70
Lane Group LOS	C	B	B	C	B	B	D	C	C	D	C	C
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.59	3.05	2.95	1.78	4.11	1.10	2.67	6.55	6.44	1.14	9.29	9.09
50th-Percentile Queue Length [ft/ln]	14.77	76.32	73.74	44.47	102.74	27.54	66.81	163.68	161.09	28.46	232.15	227.29
95th-Percentile Queue Length [veh/ln]	1.06	5.49	5.31	3.20	7.40	1.98	4.81	10.74	10.61	2.05	14.28	14.04
95th-Percentile Queue Length [ft/ln]	26.58	137.37	132.74	80.05	184.94	49.57	120.27	268.59	265.17	51.23	357.09	350.92

Movement, Approach, & Intersection Results

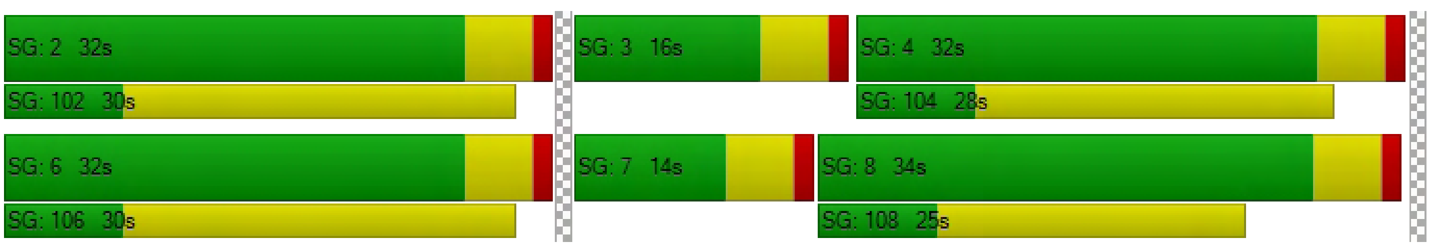
d_M, Delay for Movement [s/veh]	21.67	15.93	15.98	23.49	17.06	14.13	43.47	23.99	24.00	46.08	34.61	34.70
Movement LOS	C	B	B	C	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	16.36			17.85			26.54			35.20		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	25.95											
Intersection LOS	C											
Intersection V/C	0.587											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.444	2.704	2.804	2.908
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	675	675	725	675
d_b, Bicycle Delay [s]	17.56	17.56	16.26	17.56
I_b,int, Bicycle LOS Score for Intersection	2.019	2.474	2.354	2.384
Bicycle LOS	B	B	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



S2A Modular Manufacturing

Vistro File: G:\...\PM.vistro
Report File: G:\...\PMEp.pdf

Scenario 2 Existing Plus Project
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.694	28.0	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.707	95.3	F
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.500	11.2	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	SB Left	0.776	42.5	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	NB Left	0.414	16.5	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Right	0.670	31.4	C
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Thru	0.000	9.8	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.062	9.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	31.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.670

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	0	7	25	13	6	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	361	74	153	355	186	140	1070	58	95	1023	84
Peak Hour Factor	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	99	20	42	97	51	38	293	16	26	280	23
Total Analysis Volume [veh/h]	54	395	81	167	388	203	153	1170	63	104	1119	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	37	0	0	37	0	12	43	0	10	41	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	37	37	37	37	37	37	43	34	34	43	32	32
g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.41	0.41	0.48	0.37	0.37	0.48	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.13	0.18	0.20	0.13	0.20	0.33	0.33	0.15	0.32	0.32
s, saturation flow rate [veh/h]	1011	1900	1790	933	1900	1615	759	1900	1866	700	1900	1850
c, Capacity [veh/h]	324	775	730	364	775	659	337	708	696	312	674	656
d1, Uniform Delay [s]	27.36	18.11	18.14	26.54	19.84	18.06	19.15	26.31	26.35	18.67	27.68	27.72
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.15	0.28	0.28	0.11	0.29	0.30
I, Upstream Filtering 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
d2, Incremental Delay [s]	1.11	1.06	1.15	4.13	2.31	1.21	1.30	8.66	9.03	0.62	12.11	12.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.17	0.31	0.32	0.46	0.50	0.31	0.45	0.88	0.88	0.33	0.91	0.91
d, Delay for Lane Group [s/veh]	28.47	19.17	19.29	30.67	22.14	19.27	20.46	34.98	35.39	19.30	39.79	40.45
Lane Group LOS	C	B	B	C	C	B	C	C	D	B	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.99	3.43	3.30	3.28	6.09	2.89	1.77	13.29	13.18	1.14	14.02	13.82
50th-Percentile Queue Length [ft/ln]	24.78	85.87	82.38	81.93	152.22	72.13	44.28	332.29	329.51	28.57	350.59	345.55
95th-Percentile Queue Length [veh/ln]	1.78	6.18	5.93	5.90	10.14	5.19	3.19	19.27	19.13	2.06	20.17	19.92
95th-Percentile Queue Length [ft/ln]	44.61	154.56	148.28	147.47	253.39	129.83	79.70	481.76	478.36	51.42	504.13	497.98

Movement, Approach, & Intersection Results

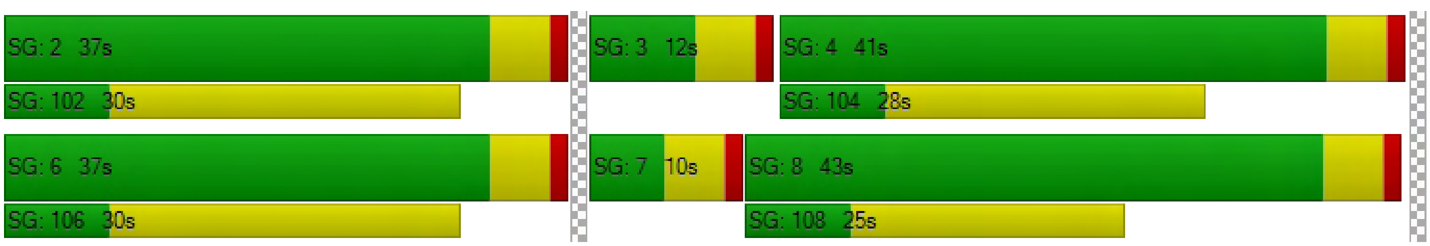
d_M, Delay for Movement [s/veh]	28.47	19.22	19.29	30.67	22.14	19.27	20.46	35.17	35.39	19.30	40.09	40.45
Movement LOS	C	B	B	C	C	B	C	D	D	B	D	D
d_A, Approach Delay [s/veh]	20.17			23.25			33.56			38.47		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	31.44											
Intersection LOS	C											
Intersection V/C	0.670											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	2.542	2.838	3.005	3.159
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	844	800
d_b, Bicycle Delay [s]	18.69	18.69	15.02	16.20
I_b,int, Bicycle LOS Score for Intersection	1.997	2.810	2.703	2.644
Bicycle LOS	A	C	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



OPENING YEAR (2021) WITHOUT PROJECT (EAGC)

S2A Modular Manufacturing

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Scenario 6 Opening Year (Phase1) without Project

Report File: G:\...\AMOY1.pdf

5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.570	25.0	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.042	31.0	D
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.534	13.7	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.806	45.9	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	SB Left	0.437	17.0	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Left	0.703	28.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	28.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.703

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	47	16	43	68	80	54	39	46	20	51	31
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	413	81	144	361	167	147	761	81	66	851	79
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	119	23	41	104	48	42	219	23	19	245	23
Total Analysis Volume [veh/h]	82	475	93	166	415	192	169	875	93	76	978	91
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	16	34	0	14	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	30	30	30	30	30	30	9	30	30	4	25	25
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.38	0.11	0.38	0.38	0.06	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.08	0.15	0.15	0.19	0.22	0.12	0.09	0.26	0.26	0.04	0.29	0.29
s, saturation flow rate [veh/h]	987	1900	1794	857	1900	1615	1810	1900	1837	1810	1900	1844
c, Capacity [veh/h]	278	724	684	305	724	616	209	714	690	101	601	583
d1, Uniform Delay [s]	28.58	18.11	18.13	27.89	19.62	17.40	34.58	21.07	21.08	37.27	26.21	26.22
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.16	0.16	0.11	0.26	0.26
I, Upstream Filtering 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
d2, Incremental Delay [s]	2.68	1.66	1.78	6.84	3.28	1.32	7.33	1.80	1.87	10.66	11.43	11.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.29	0.40	0.40	0.54	0.57	0.31	0.81	0.69	0.69	0.75	0.90	0.90
d, Delay for Lane Group [s/veh]	31.25	19.77	19.90	34.73	22.89	18.72	41.90	22.87	22.94	47.92	37.64	38.03
Lane Group LOS	C	B	B	C	C	B	D	C	C	D	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.52	3.92	3.75	3.32	6.20	2.50	3.51	7.50	7.27	1.72	11.07	10.82
50th-Percentile Queue Length [ft/ln]	37.95	98.04	93.72	83.10	154.89	62.44	87.85	187.40	181.71	42.98	276.85	270.49
95th-Percentile Queue Length [veh/ln]	2.73	7.06	6.75	5.98	10.28	4.50	6.33	11.99	11.69	3.09	16.53	16.21
95th-Percentile Queue Length [ft/ln]	68.30	176.46	168.69	149.58	256.94	112.39	158.13	299.65	292.25	77.36	413.29	405.35

Movement, Approach, & Intersection Results

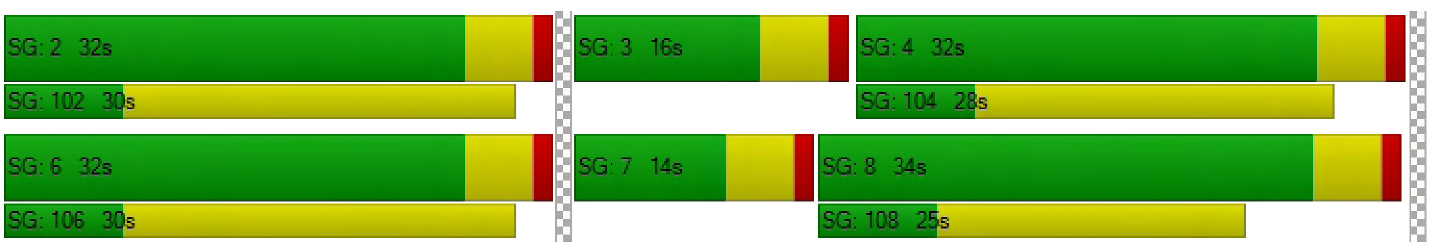
d_M, Delay for Movement [s/veh]	31.25	19.82	19.90	34.73	22.89	18.72	41.90	22.90	22.94	47.92	37.81	38.03
Movement LOS	C	B	B	C	C	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	21.27			24.40			25.73			38.50		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	28.62											
Intersection LOS	C											
Intersection V/C	0.703											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.526	2.773	2.953	3.048
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	675	675	725	675
d_b, Bicycle Delay [s]	17.56	17.56	16.26	17.56
I_b,int, Bicycle LOS Score for Intersection	2.096	2.835	2.498	2.504
Bicycle LOS	B	C	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



S2A Modular Manufacturing

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Scenario 6 Opening Year (Phase1) without Project

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5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.804	32.1	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.061	50.6	F
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	NB Left	0.595	13.7	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	EB Thru	0.975	79.3	E
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	NB Left	0.540	17.3	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	SB Left	5.513	45.8	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	45.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	5.513

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	92	129	43	73	113	117	129	60	76	37	55	76
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	493	120	225	456	297	268	1173	136	136	1119	160
Peak Hour Factor	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	135	33	62	125	81	73	321	37	37	306	44
Total Analysis Volume [veh/h]	156	539	131	246	499	325	293	1283	149	149	1224	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	37	0	0	37	0	12	33	0	10	33	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	25	25	25	25	25	25	40	30	30	40	28	28
g / C, Green / Cycle	0.33	0.33	0.33	0.33	0.33	0.33	0.53	0.40	0.40	0.53	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.17	0.18	0.18	0.32	0.26	0.20	0.39	0.38	0.39	0.40	0.37	0.38
s, saturation flow rate [veh/h]	913	1900	1773	779	1900	1615	747	1900	1832	371	1900	1819
c, Capacity [veh/h]	166	636	593	224	636	540	397	759	732	432	707	676
d1, Uniform Delay [s]	36.23	20.30	20.31	34.00	22.52	20.79	17.03	21.81	22.10	14.92	23.55	23.55
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.41	0.39	0.41	0.43	0.38	0.39
I, Upstream Filtering 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
d2, Incremental Delay [s]	56.16	3.33	3.58	89.39	9.41	4.89	9.75	19.20	23.81	1.88	30.52	35.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.94	0.54	0.55	1.10	0.78	0.60	0.74	0.95	0.97	0.34	1.00	1.02
d, Delay for Lane Group [s/veh]	92.39	23.64	23.89	123.39	31.93	25.68	26.78	41.01	45.92	16.80	54.07	59.08
Lane Group LOS	F	C	C	F	C	C	C	D	D	B	F	F
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.31	5.05	4.76	9.47	8.79	5.02	3.39	14.96	15.74	1.30	17.20	17.41
50th-Percentile Queue Length [ft/ln]	132.80	126.27	119.06	236.73	219.83	125.55	84.83	374.02	393.46	32.54	430.05	435.14
95th-Percentile Queue Length [veh/ln]	9.09	8.74	8.34	15.32	13.66	8.70	6.11	21.30	22.24	2.34	24.07	24.57
95th-Percentile Queue Length [ft/ln]	227.29	218.42	208.54	383.02	341.41	217.42	152.69	532.60	556.11	58.57	601.73	614.18

Movement, Approach, & Intersection Results

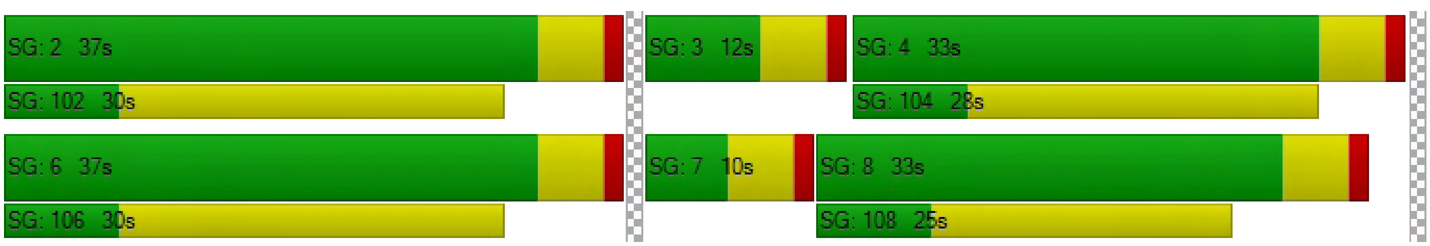
d_M, Delay for Movement [s/veh]	92.39	23.73	23.89	123.39	31.93	25.68	26.78	43.16	45.92	16.80	56.18	59.08
Movement LOS	F	C	C	F	C	C	C	D	D	B	E	E
d_A, Approach Delay [s/veh]	36.72			51.06			40.62			52.72		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	45.78											
Intersection LOS	D											
Intersection V/C	5.513											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	27.31	27.31	27.31	27.31
I_p,int, Pedestrian LOS Score for Intersection	2.739	3.059	3.292	3.370
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	853	853	747	747
d_b, Bicycle Delay [s]	12.33	12.33	14.73	14.73
I_b,int, Bicycle LOS Score for Intersection	2.241	3.325	2.983	2.837
Bicycle LOS	B	C	C	C

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



OPENING YEAR (2021) WITH PROJECT (EAGPC)

S2A Modular Manufacturing

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Scenario 7 Opening Year (Phase1) with Project
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.586	25.2	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.197	43.1	E
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.550	13.9	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.811	49.2	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	SB Left	0.447	17.0	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Left	0.714	28.9	C
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	NB Thru	0.000	9.4	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.010	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.714

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	62	16	45	72	83	63	39	46	20	51	35
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	428	81	146	365	170	156	761	81	66	851	83
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	123	23	42	105	49	45	219	23	19	245	24
Total Analysis Volume [veh/h]	82	492	93	168	420	195	179	875	93	76	978	95
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	16	34	0	14	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	30	30	30	30	30	30	10	31	31	4	25	25
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.38	0.12	0.38	0.38	0.06	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.08	0.16	0.16	0.20	0.22	0.12	0.10	0.26	0.26	0.04	0.29	0.29
s, saturation flow rate [veh/h]	982	1900	1797	843	1900	1615	1810	1900	1837	1810	1900	1842
c, Capacity [veh/h]	269	714	675	293	714	607	219	724	700	101	601	582
d1, Uniform Delay [s]	29.23	18.54	18.56	28.81	20.04	17.75	34.34	20.69	20.70	37.27	26.26	26.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.16	0.16	0.11	0.26	0.26
I, Upstream Filtering 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
d2, Incremental Delay [s]	2.91	1.81	1.94	7.92	3.54	1.40	7.32	1.69	1.76	10.66	11.88	12.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.31	0.42	0.42	0.57	0.59	0.32	0.82	0.68	0.68	0.75	0.91	0.91
d, Delay for Lane Group [s/veh]	32.15	20.35	20.49	36.73	23.58	19.15	41.67	22.38	22.46	47.92	38.14	38.56
Lane Group LOS	C	C	C	D	C	B	D	C	C	D	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.55	4.12	3.94	3.49	6.39	2.58	3.71	7.39	7.17	1.72	11.20	10.94
50th-Percentile Queue Length [ft/ln]	38.68	102.96	98.49	87.20	159.81	64.41	92.81	184.85	179.27	42.98	280.06	273.44
95th-Percentile Queue Length [veh/ln]	2.78	7.41	7.09	6.28	10.54	4.64	6.68	11.85	11.56	3.09	16.69	16.36
95th-Percentile Queue Length [ft/ln]	69.62	185.32	177.29	156.95	263.47	115.94	167.06	296.34	289.06	77.36	417.29	409.03

Movement, Approach, & Intersection Results

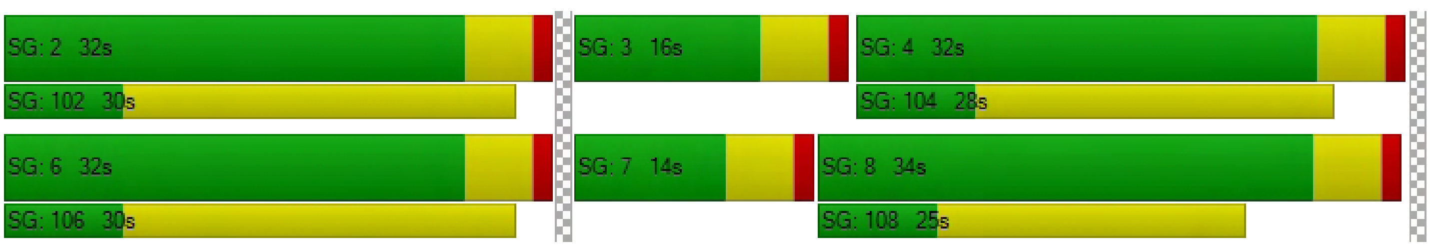
d_M, Delay for Movement [s/veh]	32.15	20.41	20.49	36.73	23.58	19.15	41.67	22.41	22.46	47.92	38.32	38.56
Movement LOS	C	C	C	D	C	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	21.86			25.30			25.42			38.98		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	28.92											
Intersection LOS	C											
Intersection V/C	0.714											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.533	2.782	2.956	3.052
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	675	675	725	675
d_b, Bicycle Delay [s]	17.56	17.56	16.26	17.56
I_b,int, Bicycle LOS Score for Intersection	2.110	2.852	2.506	2.508
Bicycle LOS	B	C	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Scenario 7 Opening Year (Phase1) with Project
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.817	33.7	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.539	91.7	F
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	NB Left	0.609	13.8	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	EB Thru	0.986	81.5	F
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	NB Left	0.548	17.4	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	SB Left	0.931	49.8	D
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Thru	0.000	9.4	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.024	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	49.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.931

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	92	134	43	76	124	123	132	60	76	37	55	78
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	498	120	228	467	303	271	1173	136	136	1119	162
Peak Hour Factor	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	136	33	62	128	83	74	321	37	37	306	44
Total Analysis Volume [veh/h]	156	545	131	249	511	331	296	1283	149	149	1224	177
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	37	0	0	37	0	11	37	0	11	37	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	32	32	32	32	32	32	43	32	32	43	32	32
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.38	0.51	0.38	0.38	0.51	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.17	0.18	0.18	0.32	0.27	0.20	0.43	0.38	0.39	0.22	0.37	0.38
s, saturation flow rate [veh/h]	903	1900	1774	775	1900	1615	689	1900	1832	668	1900	1818
c, Capacity [veh/h]	202	718	670	254	718	610	329	721	695	322	713	682
d1, Uniform Delay [s]	38.33	20.17	20.17	36.21	22.51	20.70	24.17	26.38	26.38	18.18	26.51	26.56
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.43	0.45	0.14	0.43	0.44
I, Upstream Filtering 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
d2, Incremental Delay [s]	24.23	2.35	2.53	51.98	5.93	3.44	29.44	31.42	38.26	1.35	30.47	35.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.77	0.49	0.49	0.98	0.71	0.54	0.90	1.00	1.02	0.46	1.00	1.01
d, Delay for Lane Group [s/veh]	62.56	22.52	22.70	88.19	28.44	24.14	53.61	57.80	64.65	19.53	56.98	61.96
Lane Group LOS	E	C	C	F	C	C	D	F	F	B	E	F
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.52	5.34	5.02	8.71	9.13	5.32	5.73	19.67	20.29	1.51	19.23	19.40
50th-Percentile Queue Length [ft/ln]	113.12	133.39	125.56	217.78	228.23	132.92	143.17	491.69	507.18	37.81	480.86	484.95
95th-Percentile Queue Length [veh/ln]	8.01	9.12	8.70	13.55	14.08	9.10	9.65	26.96	28.12	2.72	26.43	26.85
95th-Percentile Queue Length [ft/ln]	200.34	228.09	217.45	338.78	352.11	227.46	241.29	673.97	703.01	68.06	660.68	671.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.56	22.58	22.70	88.19	28.44	24.14	53.61	60.80	64.65	19.53	59.07	61.96
Movement LOS	E	C	C	F	C	C	D	E	E	B	E	E
d_A, Approach Delay [s/veh]	30.10			40.77			59.90			55.60		
Approach LOS	C			D			E			E		
d_I, Intersection Delay [s/veh]	49.84											
Intersection LOS	D											
Intersection V/C	0.931											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.747	3.074	3.301	3.382
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	753	753	753	753
d_b, Bicycle Delay [s]	16.52	16.52	16.52	16.52
I_b,int, Bicycle LOS Score for Intersection	2.246	3.360	2.985	2.838
Bicycle LOS	B	C	C	C

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

COMPLETION YEAR (2024) WITHOUT PROJECT (EAGC)

S2A Modular Manufacturing

Vistro File: G:\...\AM.vistro

Report File: G:\...\AMOY2.pdf

Scenario 3 Opening Year (Phase2) without Project

5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.602	25.5	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.054	34.2	D
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.563	14.4	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	NB Left	0.847	50.3	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	SB Left	0.459	17.5	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Left	0.738	29.9	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.738

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	47	16	43	68	80	54	39	46	20	51	31
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	436	84	150	379	173	152	805	84	69	900	82
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	125	24	43	109	50	44	231	24	20	259	24
Total Analysis Volume [veh/h]	85	501	97	172	436	199	175	925	97	79	1034	94
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	16	34	0	14	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	29	29	29	29	29	29	9	31	31	5	26	26
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.37	0.37	0.12	0.39	0.39	0.06	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.09	0.16	0.16	0.21	0.23	0.12	0.10	0.27	0.27	0.04	0.30	0.30
s, saturation flow rate [veh/h]	968	1900	1795	833	1900	1615	1810	1900	1837	1810	1900	1845
c, Capacity [veh/h]	244	694	656	277	694	590	214	741	716	104	625	607
d1, Uniform Delay [s]	31.03	19.22	19.23	30.34	20.91	18.38	34.45	20.51	20.52	37.19	25.79	25.80
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.19	0.19	0.11	0.29	0.29
I, Upstream Filtering 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
d2, Incremental Delay [s]	3.90	2.03	2.17	10.06	4.26	1.54	7.50	2.10	2.20	10.87	13.27	13.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.35	0.44	0.44	0.62	0.63	0.34	0.82	0.70	0.70	0.76	0.91	0.92
d, Delay for Lane Group [s/veh]	34.93	21.25	21.41	40.40	25.18	19.92	41.95	22.61	22.72	48.06	39.06	39.59
Lane Group LOS	C	C	C	D	C	B	D	C	C	D	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.70	4.33	4.14	3.79	6.92	2.70	3.64	7.89	7.67	1.79	11.95	11.71
50th-Percentile Queue Length [ft/ln]	42.40	108.37	103.53	94.73	172.99	67.46	91.04	197.23	191.63	44.70	298.79	292.85
95th-Percentile Queue Length [veh/ln]	3.05	7.75	7.45	6.82	11.23	4.86	6.55	12.50	12.21	3.22	17.62	17.33
95th-Percentile Queue Length [ft/ln]	76.32	193.73	186.36	170.51	280.84	121.43	163.87	312.39	305.15	80.46	440.53	433.18

Movement, Approach, & Intersection Results

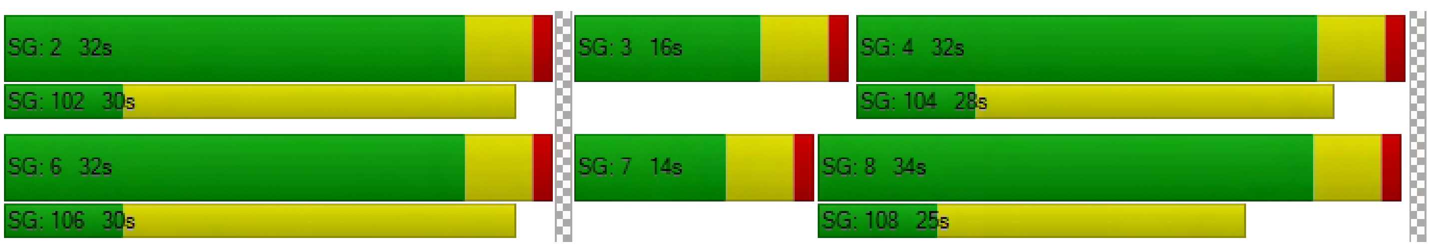
d_M, Delay for Movement [s/veh]	34.93	21.31	21.41	40.40	25.18	19.92	41.95	22.66	22.72	48.06	39.30	39.59
Movement LOS	C	C	C	D	C	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	23.02			27.12			25.48			39.89		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	29.86											
Intersection LOS	C											
Intersection V/C	0.738											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.545	2.788	2.986	3.084
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	675	675	725	675
d_b, Bicycle Delay [s]	17.56	17.56	16.26	17.56
I_b,int, Bicycle LOS Score for Intersection	2.123	2.891	2.547	2.555
Bicycle LOS	B	C	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



S2A Modular Manufacturing

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Scenario 3 Opening Year (Phase2) without Project

Report File: G:\...\PMOY2.pdf
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.847	34.7	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.096	58.2	F
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	NB Left	0.625	14.4	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	EB Thru	1.021	88.8	F
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	NB Left	0.565	17.9	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	SB Left	6.341	51.1	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	51.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	6.341

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	┐‖├			┐|┌			┐‖├			┐‖├		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	92	129	43	73	113	117	129	60	76	37	55	76
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	146	515	125	234	477	308	277	1241	140	142	1184	165
Peak Hour Factor	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	141	34	64	130	84	76	339	38	39	324	45
Total Analysis Volume [veh/h]	160	563	137	256	522	337	303	1357	153	155	1295	180
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	37	0	0	37	0	12	41	0	10	41	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	32	32	32	32	32	32	48	38	38	48	36	36
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.36	0.36	0.53	0.42	0.42	0.53	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.18	0.19	0.19	0.34	0.27	0.21	0.45	0.40	0.41	0.50	0.39	0.40
s, saturation flow rate [veh/h]	894	1900	1773	758	1900	1615	666	1900	1834	313	1900	1821
c, Capacity [veh/h]	166	678	633	222	678	576	331	800	772	361	757	726
d1, Uniform Delay [s]	42.66	22.99	23.00	39.59	25.66	23.52	27.85	25.12	25.57	18.75	26.80	27.06
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.44	0.46	0.50	0.43	0.44
I, Upstream Filtering 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
d2, Incremental Delay [s]	60.53	3.00	3.21	107.30	8.22	4.30	32.15	19.67	25.23	3.69	26.83	32.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.96	0.53	0.53	1.15	0.77	0.58	0.92	0.95	0.97	0.43	0.99	1.00
d, Delay for Lane Group [s/veh]	103.19	25.99	26.21	146.89	33.89	27.82	60.00	44.80	50.81	22.44	53.63	59.47
Lane Group LOS	F	C	C	F	C	C	E	D	D	C	D	F
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.26	6.27	5.89	11.44	10.73	6.12	6.07	18.70	19.87	1.82	20.28	20.90
50th-Percentile Queue Length [ft/ln]	156.54	156.69	147.33	286.05	268.26	153.01	151.84	467.49	496.63	45.59	506.89	522.58
95th-Percentile Queue Length [veh/ln]	10.37	10.37	9.87	18.43	16.10	10.18	10.12	25.79	27.17	3.28	27.66	28.49
95th-Percentile Queue Length [ft/ln]	259.13	259.33	246.87	460.68	402.57	254.45	252.88	644.79	679.37	82.06	691.51	712.26

Movement, Approach, & Intersection Results

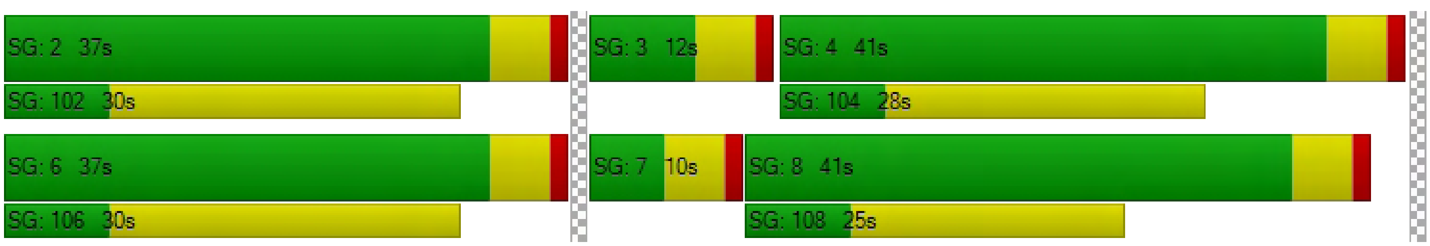
d_M, Delay for Movement [s/veh]	103.19	26.07	26.21	146.89	33.89	27.82	60.00	47.45	50.81	22.44	56.11	59.47
Movement LOS	F	C	C	F	C	C	E	D	D	C	E	E
d_A, Approach Delay [s/veh]	40.44			58.00			49.83			53.28		
Approach LOS	D			E			D			D		
d_I, Intersection Delay [s/veh]	51.06											
Intersection LOS	D											
Intersection V/C	6.341											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	2.778	3.102	3.347	3.432
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	800	800
d_b, Bicycle Delay [s]	18.69	18.69	16.20	16.20
I_b,int, Bicycle LOS Score for Intersection	2.269	3.399	3.055	2.904
Bicycle LOS	B	C	C	C

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



COMPLETION YEAR (2024) WITH PROJECT (EAGPC)

S2A Modular Manufacturing

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Scenario 4 Opening Year (Phase2) with Project
Report File: G:\...\AMOY2p.pdf
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.641	26.0	C
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	0.550	95.6	F
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	SB Left	0.603	14.8	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	SB Left	0.869	54.3	D
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	SB Left	0.484	17.5	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	WB Left	0.765	31.0	C
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	NB Thru	0.000	10.0	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.017	9.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	31.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.765

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	36	352	62	97	282	84	89	694	34	44	769	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	82	16	46	78	86	75	39	46	20	51	41
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	471	84	153	389	179	173	805	84	69	900	92
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	135	24	44	112	51	50	231	24	20	259	26
Total Analysis Volume [veh/h]	85	541	97	176	447	206	199	925	97	79	1034	106
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	32	0	0	32	0	16	34	0	14	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	28	28	28	28	28	28	11	32	32	5	26	26
g / C, Green / Cycle	0.35	0.35	0.35	0.35	0.35	0.35	0.13	0.40	0.40	0.06	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.17	0.22	0.24	0.13	0.11	0.27	0.27	0.04	0.30	0.31
s, saturation flow rate [veh/h]	958	1900	1801	803	1900	1615	1810	1900	1837	1810	1900	1839
c, Capacity [veh/h]	223	671	636	252	671	570	238	764	739	104	623	603
d1, Uniform Delay [s]	32.54	20.23	20.24	32.56	21.90	19.19	33.92	19.69	19.70	37.19	26.00	26.02
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.19	0.19	0.11	0.30	0.30
I, Upstream Filtering 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
d2, Incremental Delay [s]	4.87	2.52	2.68	14.83	5.17	1.77	7.56	1.85	1.93	10.87	15.15	15.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.38	0.49	0.49	0.70	0.67	0.36	0.84	0.68	0.68	0.76	0.93	0.93
d, Delay for Lane Group [s/veh]	37.41	22.75	22.92	47.39	27.07	20.97	41.48	21.53	21.64	48.06	41.15	41.84
Lane Group LOS	D	C	C	D	C	C	D	C	C	D	D	D
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.78	4.84	4.63	4.29	7.43	2.89	4.12	7.64	7.43	1.79	12.45	12.19
50th-Percentile Queue Length [ft/ln]	44.43	120.94	115.75	107.22	185.70	72.30	103.05	191.10	185.77	44.70	311.19	304.65
95th-Percentile Queue Length [veh/ln]	3.20	8.44	8.16	7.69	11.90	5.21	7.42	12.18	11.90	3.22	18.23	17.91
95th-Percentile Queue Length [ft/ln]	79.98	211.12	203.97	192.13	297.44	130.14	185.50	304.46	297.53	80.46	455.85	447.78

Movement, Approach, & Intersection Results

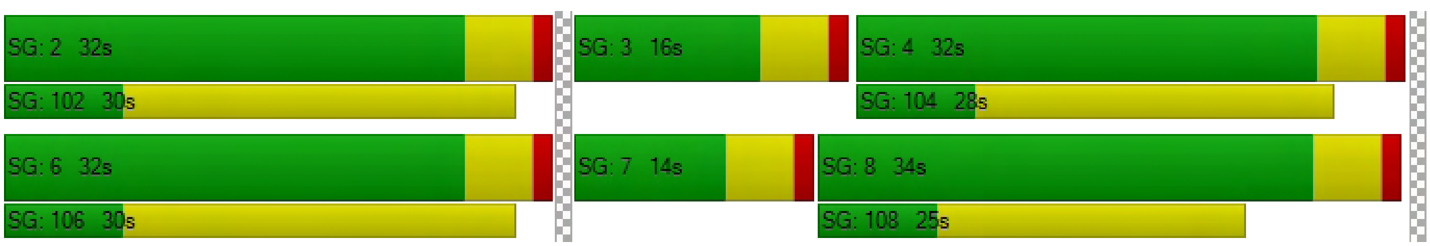
d_M, Delay for Movement [s/veh]	37.41	22.81	22.92	47.39	27.07	20.97	41.48	21.58	21.64	48.06	41.45	41.84
Movement LOS	D	C	C	D	C	C	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	24.54			29.87			24.83			41.91		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	31.04											
Intersection LOS	C											
Intersection V/C	0.765											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.562	2.809	2.993	3.093
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	675	675	725	675
d_b, Bicycle Delay [s]	17.56	17.56	16.26	17.56
I_b,int, Bicycle LOS Score for Intersection	2.156	2.927	2.567	2.565
Bicycle LOS	B	C	B	B

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



S2A Modular Manufacturing

Vistro File: G:\...\PM.vistro
Report File: G:\...\PMOY2p.pdf

Scenario 4 Opening Year (Phase2) with Project
5/11/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	State Street / Esplanade Avenue	Signalized	HCM 6th Edition	NB Left	0.878	38.9	D
2	State Street / Crows Nest Pl	Two-way stop	HCM 6th Edition	EB Left	1.463	439.4	F
3	State Street / Fruitvale Avenue	Signalized	HCM 6th Edition	NB Left	0.657	15.0	B
4	State Street / Menlo Avenue	Signalized	HCM 6th Edition	EB Thru	1.045	106.5	F
5	State Street / Devonshire Avenue	Signalized	HCM 6th Edition	NB Left	0.591	17.9	B
6	State Street / Florida Avenue	Signalized	HCM 6th Edition	SB Left	0.984	53.6	D
7	Project West Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Thru	0.000	9.8	A
8	Project East Access at Crows Nest Pl	Two-way stop	HCM 6th Edition	SB Left	0.062	9.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 6: State Street / Florida Avenue

Control Type:	Signalized	Delay (sec / veh):	53.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.984

Intersection Setup

Name	State St			State St			Florida Ave			Florida Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	40.00			40.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	State St			State St			Florida Ave			Florida Ave		
Base Volume Input [veh/h]	49	350	74	146	330	173	134	1070	58	95	1023	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	92	140	43	80	138	130	135	60	76	37	55	79
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	146	526	125	241	502	321	283	1241	140	142	1184	168
Peak Hour Factor	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142	0.9142
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	144	34	66	137	88	77	339	38	39	324	46
Total Analysis Volume [veh/h]	160	575	137	264	549	351	310	1357	153	155	1295	184
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	37	0	0	37	0	12	43	0	10	41	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	23	0	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	32	32	32	32	32	32	48	38	38	48	36	36
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.36	0.36	0.53	0.42	0.42	0.53	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.18	0.19	0.19	0.35	0.29	0.22	0.47	0.40	0.41	0.26	0.39	0.40
s, saturation flow rate [veh/h]	872	1900	1775	750	1900	1615	665	1900	1834	596	1900	1819
c, Capacity [veh/h]	149	678	633	218	678	576	331	800	772	294	757	725
d1, Uniform Delay [s]	43.37	23.09	23.09	39.74	26.18	23.79	29.12	25.11	25.57	19.47	26.84	27.06
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.42	0.19	0.43	0.44
I, Upstream Filtering 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
d2, Incremental Delay [s]	95.94	3.10	3.32	129.15	10.11	4.74	35.92	18.51	24.04	2.51	27.47	33.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	1.08	0.54	0.54	1.21	0.81	0.61	0.94	0.95	0.97	0.53	0.99	1.01
d, Delay for Lane Group [s/veh]	139.31	26.19	26.42	168.90	36.29	28.53	65.04	43.62	49.61	21.98	54.32	60.39
Lane Group LOS	F	C	C	F	D	C	E	D	D	C	D	F
Critical Lane Group	No	No	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.18	6.41	6.03	12.56	11.75	6.48	6.51	18.44	19.61	1.66	20.48	21.07
50th-Percentile Queue Length [ft/ln]	179.41	160.15	150.72	313.91	293.84	162.00	162.65	460.89	490.36	41.47	511.94	526.87
95th-Percentile Queue Length [veh/ln]	12.06	10.56	10.06	20.44	17.38	10.65	10.69	25.48	26.88	2.99	27.90	28.76
95th-Percentile Queue Length [ft/ln]	301.57	263.93	251.40	510.88	434.40	266.36	267.22	636.93	671.94	74.64	697.47	719.05

Movement, Approach, & Intersection Results

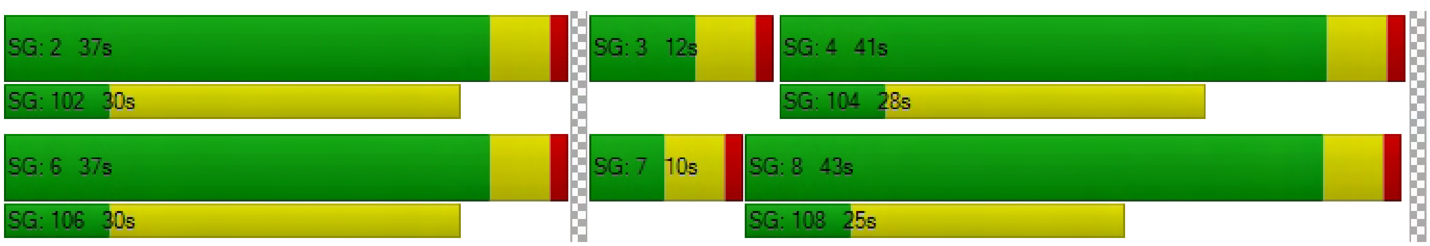
d_M, Delay for Movement [s/veh]	139.31	26.27	26.42	168.90	36.29	28.53	65.04	46.27	49.61	21.98	56.88	60.39
Movement LOS	F	C	C	F	D	C	E	D	D	C	E	E
d_A, Approach Delay [s/veh]	47.04			64.02			49.75			53.96		
Approach LOS	D			E			D			D		
d_I, Intersection Delay [s/veh]	53.60											
Intersection LOS	D											
Intersection V/C	0.984											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	2.790	3.122	3.352	3.447
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	711	844	800
d_b, Bicycle Delay [s]	18.69	18.69	15.02	16.20
I_b,int, Bicycle LOS Score for Intersection	2.279	3.480	3.061	2.908
Bicycle LOS	B	C	C	C

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



GANDDINI GROUP, INC.
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May 11, 2020

Mr. Ken Norton, Contract Engineer
CITY OF HEMET
445 E Florida Ave
Hemet, CA 92543

RE: S2A Modular Manufacturing Project Comments Response Letter
19-0164

Dear Mr. Norton:

INTRODUCTION

Ganddini Group, Inc. is pleased to provide this response letter to review comments regarding the S2A Modular Manufacturing Project Traffic Impact Analysis (Ganddini Group, Inc., August 20, 2019). The original comment letter from LLG Engineers is dated April 8, 2019 and a scanned copy is included in Attachment A. The report has been revised based on the comments and responses herein.

GENERAL COMMENTS – 1ST BULLET

Based on our review, we find that the traffic impact analysis (TIA) is in general conformance with City of Hemet (County of Riverside TIA Guidelines) and standard traffic engineering/planning practice. However, there is some concern regarding the version of the Vistro software utilized (The TIA utilized Vistro 6.0 instead of the current version in August 2019 of Vistro 7.0) and the assumptions in the LOS calculations regarding signal timing. Specifically, all of the signalized study intersections were run assuming "fixed-time", whereas the appropriate signal timing assumption would be to run "actuated" or "semi-actuated" based on the existing signal detection at each specific study intersection.

Response

The software version utilized for the analysis (Vistro 6.0) provides Level of Service and operational results in accordance with the latest edition of the Highway Capacity Manual (6th Edition) intersection delay methodology. While newer versions of the Vistro software may provide additional features, the underlying analysis methodology has not changed; therefore, the analysis is adequate and has not been revised using a newer version of Vistro. In response to the signal timing, the analysis has been revised using the appropriate actuation type.

GENERAL COMMENTS – 2ND BULLET

Regarding pedestrian crossing times in the LOS calculations, it appears that a 17 second "default" time was applied whereas, the County TIA Guidelines recommend full pedestrian crossing times unless the location has low pedestrian activity, in which 7 seconds can be utilized. As a result, given that State Street has sidewalks and many pedestrian related businesses, we would recommend utilizing the full pedestrian crossing times unless no crosswalks are present.

Response

The 17-second default used in the analysis is more conservative than the County-recommended default for 7 seconds in areas of light pedestrian activity. The County TIA guidelines refer to minimum green time as a proxy for minimum pedestrian crossing times and state: "7 seconds each movement in areas of light pedestrian activity. In areas of heavy activity, the minimum green time shall be calculated based on the methodology in the HCM." By entering the full pedestrian crossing times as suggested, the intersection delay calculations would reflect operations of a call on each pedestrian phase of every cycle, which rarely occurs outside of central business districts, school areas, or near other high-pedestrian generators. Nevertheless, the analysis has been revised to utilize the full pedestrian crossing times.

GENERAL COMMENTS – 3RD BULLET

It appears that the signalized LOS calculation for Intersection #2 (State/Crows Nest) did not include any crosswalks. Given that the proposed project will construct sidewalk improvements along the project frontage and that the northbound transit stop is south of the Project site, it is recommended that crosswalks be assumed along the west leg and south leg of the intersection in the LOS calculation.

Response

Intersection #2 signalized LOS calculations have been revised to include crosswalks.

GENERAL COMMENTS – 4TH BULLET

In order to provide appropriate pedestrian connection for the proposed Project to transit stops, consistent with "Active Transportation" policies, it is recommended that the existing sidewalk on the east side of State Street, south of Crows Nest Place, be extended northerly approximately 125 feet to connect to the proposed traffic signal at State/Crows Nest, which will provide a protected crossing to the west side of State Street adjacent to the project site.

Response

The recommended sidewalk extension does not correlate to a project impact under CEQA, nor is it a typical development condition. In general, most cities do not require projects to construct parkway improvements, such as landscaping and sidewalks, beyond the project frontage. City staff should discuss this issue with the applicant; however, it is not noted as a required improvement in the traffic impact analysis for the project.

GENERAL COMMENTS – 5TH BULLET

In a phased traffic analysis, it is typical procedure to apply mitigation measures considered in the initial (or previous) phase to the "with Project" condition of the subsequent phases in order determine which phase is responsible for which mitigation improvement. Therefore, it is recommended that mitigation measures identified for Year 2021 (Phase 1) traffic analysis conditions be applied to the Year 2024 (Phase 2) "with project" traffic analysis conditions.

Response

The analysis has been revised as suggested such that mitigation measures identified for earlier phases are assumed to be in place for subsequent phases.

GENERAL COMMENTS – 6TH BULLET

It is our recommended practice to report the "approach delay" not "worst movement delay" at unsignalized intersections (Intersection #2). Therefore, while not significant to the impact, we recommend reporting the approach delay for study Intersection #2.

Response

To avoid confusion, the "worst movement delay" was originally reported for consistency with the Vistro summary outputs, which report the more conservative "worst movement delay." As suggested, the report has been revised to show the "approach delay" in accordance with the Highway Capacity Manual methodology.

GENERAL COMMENTS – 7TH BULLET

Figure 11 and all subsequent traffic volume figures at Intersection #2: The EBR arrow and traffic volumes are missing. The eastbound approach correctly shows a left turn movement, but incorrectly shows a through movement, which is not possible ("T" intersection).

Response

The report figures have been revised accordingly. This was a graphic error and did not affect the Level of Service calculations.

GENERAL COMMENTS – 8TH BULLET

LOS Calculation for Intersection #5 (State/Devonshire): The SB approach lane geometry is calculated as 1 SBL, 1 SBT, and 1 SBT/R, but the appropriate lane geometry is 1 SBL, 2 SBT, and 1 SBR, as shown in Figure 3.

Response

The analysis has been revised accordingly.

GENERAL COMMENTS – 9TH BULLET

LOS Calculation for Intersection #6 (State/Florida): The LOS is calculated as an 8-phase signal with protected N/S phasing, but the intersection operates as a 5-phase signal with permissive N/S phasing. As a result, the recommended mitigation for this intersection, which is not feasible, is not satisfactory as a 5-phase signal and would need to be improved to 8-phases with protected N/S phasing.

Response

Intersection #6 signal phase has been revised to actuated and 5-phase signal with permissive north-south phasing. The revised LOS calculations indicate the intersection would operate within acceptable Levels of Service and mitigation is no longer required.

SPECIFIC COMMENTS

COMMENT 1

Page 11: Figure 3 – Existing Lane Geometry and Intersection Traffic Controls – Based on our field review of Intersection No. 4 (State/Menlo), we would not recommend that a "defacto" eastbound right turn lane be considered given that the eastbound shared roadway width is only 18 feet.

Response

The analysis has been revised accordingly.

COMMENT 2

Page 23: Project Trip Generation – It is not clear where the AM peak hour and PM peak hour car versus truck percentage splits come from. The "Light Industrial" percentage splits based on the 2003 Fontana Truck Study are 64.96%/35.04% and 43.01%/56.99%, respectively, which results in a lower trip generation forecast than provided on Table 2 in the TIA (197 AM PCE trips and 213 PM PCE trips). Therefore, while it is recommended that the TIA percentages be explained, the TIA does not need to be revised since the trip generation is greater than it should be.

Response

Baseline rates for total vehicle trips were obtained from ITE Trip Generation Manual (10th Edition) for "Land Use Code 140 - Manufacturing" (Land Use Code 130 previously listed in error). Baseline total vehicle rates were then separated into passenger car and truck rates based on data from the City of Fontana Truck Trip Generation Study (August 2003). The car and truck percentages for the AM and PM peak hours of adjacent street traffic are calculated from the summary rates shown on page 13 of the Fontana Truck Study (weighted average trips per Gross Building Area) as shown below; the daily truck rate and breakdown by axle was obtained from page 22 of the Fontana Truck Study.

	Weighted Average for Daily Trips per 1,000 GSF[1]				Car/Truck Split			
	AM Street		PM Street		AM Street		PM Street	
Land Use	All	Trucks	All	Trucks	Cars	Trucks	Cars	Trucks
Light Industrial	0.679	0.268	0.436	0.101	60.53%	39.47%	76.83%	23.17%

Source: Fontana Truck Study, page 13.

COMMENT 3

Page 53: Section 6 and/or Section 8 (Page 60) Mitigation Measures:

- Intersection #4: the mitigation can be achieved by restriping of Menlo Avenue and modifying the traffic signals in the east/west direction.
- Intersection #6: All of the mitigation identified for this intersection is not feasible. Specifically, the recommended mitigation on State Street requires the demolition of an existing building to achieve a second southbound through lane. In addition, the mitigation along Florida Avenue can not be achieved by restriping only and will require widening, which may not be feasible.

Response

Mitigation measures have been revised based on this comment and incorporation of previous signal timing/phasing comments.

- Intersection #4 mitigation was revised to restripe the eastbound and westbound approach lanes within the existing pavement width as noted in the comment.
- Intersection #6 does not require mitigation based on the revised signal phasing/Level of Service calculations resulting from revisions based on General Comment 9.

COMMENT 4

Page 54: Traffic Signal Warrant Analysis – While the graphs in Appendix appear satisfactory, we would recommend providing the traffic signal warrant analyses information provided in Vistro, which addresses the delay warrant as well as the peak hour volume warrant.

Response

Traffic Signal Warrant Analysis was performed independently of the Vistro software using CA MUTCD methodology for peak hour volumes plot for Part B. The vast majority of traffic impact studies we have reviewed or prepared do not typically include Part A as delay calculations already presented in the peak hour Level of Service analysis and only Part A or Part B must be satisfied. For the record, Part A does not appear to be satisfied for the intersection of State Street at Crows Nest Place as all three of the following criteria must be satisfied:

- Total minor street delay for one lane approach exceeds 4 vehicle hours? No - 161 vehicles per PM peak hour x (82.88 seconds / 3600) = 3.7 vehicle-hours of delay.
- Minor street volume exceeds 100 vehicles per hour on a one-lane minor approach – Yes
- Total approach volume exceeds 650 vehicles per hour on a three-leg intersection - Yes

COMMENT 5

Page 59: Table 7 – Note (2) is cut off at the edge of the page.

Response

Table 7 has been revised accordingly.

COMMENT 6

Page 60 Section 8: STATE HIGHWAY ANALYSIS – It is recommended that a LOS Summary table (or tables) be included for the one (1) State Controlled intersection (State/Florida) that shows all of the analysis scenarios.

Response

The report has been revised accordingly.

COMMENT 7

Page 62 Section 9: CONCLUSIONS:

- It is recommended each mitigation measure be identified as to whether it will be covered by a fee and/or fair share contribution.
- Given that there will likely be no impacts in Year 2024 once Year 2021 mitigation is applied to the "with project" traffic analysis condition in Year 2024, it is recommended that Table 8 be modified to be calculated based on 2021 traffic volume data and another table be provided for Year 2024 fair share calculations should there be mitigation for Year 2024.

Response

The report has been revised accordingly. All mitigation measures occur in Year 2021 and there are no additional Year 2024 improvements.

COMMENT 8

Page 66: Table 9: The top row of Table 9 should include the analysis Year.

Response

Table 9 has been revised accordingly.

COMMENT 9

Page 67: Figure 38: Figure 38 should be updated based on previous comments. In addition, the WB mitigation at Intersections #4 and #6 is either incorrect or missing and Intersection #2 shows a "Stop" sign and traffic signal. Lastly, it is not clear what is meant by the symbol, which indicates "other development improvement" as there is no mention of any planned improvements in the document.

Response

Figure 38 has been revised based on previous comments. Project improvements related to direct impacts/project design features are shown in red outline (signal at intersection #2 and project driveways). Improvements related to cumulative conditions have been relabeled and are shown in blue.

Mr. Ken Norton
CITY OF HEMET
May 11, 2020

CONCLUSION

We trust these responses and the revised report will adequately address the review comments. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100.

Sincerely,

Perrie Ilercil, PE (AZ)
Senior Engineer

Giancarlo Ganddini, TE, PTP
Principal

ATTACHMENT A

Original Comment Letter

LINSCOTT LAW & GREENSPAN engineers

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MEMORANDUM

To:	Mr. Ken Norton MIG, Inc.	Date:	April 8, 2020
From:	Keil D. Maberry, P.E., Principal LLG Engineers	LLG Ref:	2.20.4280.1
Subject:	***Peer Review – Traffic Impact Analysis for the S2A Modular Manufacturing Project, Hemet***		

As requested, Linscott, Law & Greenspan, Engineers (LLG) is pleased to provide our review comments on the *Traffic Impact Analysis* for the proposed *S2A Modular Manufacturing Project* prepared by Ganddini, dated August 20, 2019. The project site is located on the northwest quadrant of State Street and Crows Nest Place in the City of Hemet, California. As we understand it, the proposed Project will consist of a 250,000 square-foot (SF) manufacturing facility for modular housing to be constructed in two (2) phases. Access to the project site will be provided via two (2) full movement driveways along Crows Nest Place. The following summarizes our comments on the traffic study with an emphasis on making the Traffic Impact Analysis document as defensible as possible.

General Comment

- Based on our review, we find that the traffic impact analysis (TIA) is in general conformance with City of Hemet (County of Riverside TIA Guidelines) and standard traffic engineering/planning practice. However, there is some concern regarding the version of the Vistro software utilized (The TIA utilized Vistro 6.0 instead of the current version in August 2019 of Vistro 7.0) and the assumptions in the LOS calculations regarding signal timing. Specifically, all of the signalized study intersections were run assuming "fixed-time", whereas the appropriate signal timing assumption would be to run "actuated" or "semi-actuated" based on the existing signal detection at each specific study intersection.

- Regarding pedestrian crossing times in the LOS calculations, it appears that a 17 second "default" time was applied whereas, the County TIA Guidelines recommend full pedestrian crossing times unless the location has low pedestrian activity, in which 7 seconds can be utilized. As a result, given that State Street has sidewalks and many pedestrian related businesses, we would recommend utilizing the full pedestrian crossing times unless no crosswalks are present.

- It appears that the signalized LOS calculation for Intersection #2 (State/Crows Nest) did not include any crosswalks. Given that the proposed project will construct sidewalk improvements along the project frontage and that the northbound transit stop is south of the Project site, it is recommended that crosswalks be assumed along the west leg and south leg of the intersection in the LOS calculation.

LINSCOTT LAW & GREENSPAN engineers

- In order to provide appropriate pedestrian connection for the proposed Project to transit stops, consistent with "Active Transportation" policies, it is recommended that the existing sidewalk on the east side of State Street, south of Crows Nest Place, be extended northerly approximately 125 feet to connect to the proposed traffic signal at State/Crows Nest, which will provide a protected crossing to the west side of State Street adjacent to the project site.

- In a phased traffic analysis, it is typical procedure to apply mitigation measures considered in the initial (or previous) phase to the "with Project" condition of the subsequent phases in order determine which phase is responsible for which mitigation improvement. Therefore, it is recommended that mitigation measures identified for Year 2021 (Phase 1) traffic analysis conditions be applied to the Year 2024 (Phase 2) "with project" traffic analysis conditions.

- It is our recommended practice to report the "approach delay" not "worst movement delay" at unsignalized intersections (Intersection #2). Therefore, while not significant to the impact, we recommend reporting the approach delay for study Intersection #2.

- *Figure 11 and all subsequent traffic volume figures at Intersection #2:* The EBR arrow and traffic volumes are missing. The eastbound approach correctly shows a left turn movement, but incorrectly shows a through movement, which is not possible ("T" intersection).

- *LOS Calculation for Intersection #5 (State/Devonshire):* The SB approach lane geometry is calculated as 1 SBL, 1 SBT, and 1 SBT/R, but the appropriate lane geometry is 1 SBL, 2 SBT, and 1 SBR, as shown in Figure 3.

- *LOS Calculation for Intersection #6 (State/Florida):* The LOS is calculated as an 8-phase signal with protected N/S phasing, but the intersection operates as a 5-phase signal with permissive N/S phasing. As a result, the recommended mitigation for this intersection, which is not feasible, is not satisfactory as a 5-phase signal and would need to be improved to 8-phases with protected N/S phasing.

<u>Specific Comments</u>

1) *Page 11: Figure 3 – Existing Lane Geometry and Intersection Traffic Controls –* Based on our field review of Intersection No. 4 (State/Menlo), we would not recommend that a "defacto" eastbound right turn lane be considered given that the eastbound shared roadway width is only 18 feet.

LINSCOTT LAW & GREENSPAN
engineers

2) *Page 23: Project Trip Generation* – It is not clear where the AM peak hour and PM peak hour car versus truck percentage splits come from. The "Light Industrial" percentage splits based on the 2003 Fontana Truck Study are 64.96%/35.04% and 43.01%/56.99%, respectively, which results in a lower trip generation forecast than provided on Table 2 in the TIA (197 AM PCE trips and 213 PM PCE trips). Therefore, while it is recommended that the TIA percentages be explained, the TIA does not need to be revised since the trip generation is greater than it should be.

3) *Page 53: Section 6 and/or Section 8 (Page 60) Mitigation Measures:*

   - Intersection #4: the mitigation can be achieved by restriping of Menlo Avenue and modifying the traffic signals in the east/west direction.
   - Intersection #6: All of the mitigation identified for this intersection is not feasible. Specifically, the recommended mitigation on State Street requires the demolition of an existing building to achieve a second southbound through lane. In addition, the mitigation along Florida Avenue can not be achieved by restriping only and will require widening, which may not be feasible.

4) *Page 54: Traffic Signal Warrant Analysis* – While the graphs in Appendix appear satisfactory, we would recommend providing the traffic signal warrant analyses information provided in Vistro, which addresses the delay warrant as well as the peak hour volume warrant.

5) *Page 59: Table 7* – Note (2) is cut off at the edge of the page.

6) *Page 60 Section 8: STATE HIGHWAY ANALYSIS* – It is recommended that a LOS Summary table (or tables) be included for the one (1) State Controlled intersection (State/Florida) that shows all of the analysis scenarios.

7) *Page 62 Section 9: CONCLUSIONS:*

   - It is recommended each mitigation measure be identified as to whether it will be covered by a fee and/or fair share contribution.
   - Given that there will likely be no impacts in Year 2024 once Year 2021 mitigation is applied to the "with project" traffic analysis condition in Year 2024, It is recommended that Table 8 be modified to be calculated based on 2021 traffic volume data and another table be provided for Year 2024 fair share calculations should there be mitigation for Year 2024.

LINSCOTT LAW & GREENSPAN engineers

8) *Page 66: Table 9:* The top row of Table 9 should include the analysis Year.

9) *Page 67: Figure 38:* Figure 38 should be updated based on previous comments. In addition, the WB mitigation at Intersections #4 and #6 is either incorrect or missing and Intersection #2 shows a "Stop" sign and traffic signal. Lastly, it is not clear what is meant by the symbol, which indicates "other development improvement" as there is no mention of any planned improvements in the document.

* * * * * * * * * * *

We appreciate the opportunity to provide these comments. Please call us at (949) 825-6175 if you have any questions.

transportation ▪ noise ▪ air quality | **GANDDINI GROUP**

June 25, 2020

Mr. Kent Norton
MIG, Inc.
1650 Spruce Street, Suite 102
Riverside, CA 92507

RE: S2A Modular Manufacturing Project Vehicle Miles Traveled (VMT) Memorandum
19-0164

Dear Mr. Norton:

INTRODUCTION

Ganddini Group, Inc. is pleased to submit this Vehicle Miles Traveled (VMT) Memorandum for the proposed S2A Modular Manufacturing Project. This analysis supplements the S2A Modular Manufacturing Project Traffic Impact Analysis (Ganddini Group, Inc., June 26, 2020) ["Project TIA"]. A copy of the trip generation forecast from the Project TIA (Table 2) is included in Attachment A.

PROJECT DESCRIPTION

The 32.1-acre project site is located at the northwest corner of State Street and Crows Nest Place in the City of Hemet. The project site is currently vacant. The proposed project involves construction of a 231,669 square foot manufacturing facility for modular housing.

The proposed project is planned to be constructed in two phases. The project proposes a phase one construction of 118.294 square foot of manufacturing land use with an anticipated completion in Year 2021 and a second construction phase of 113.335 square foot of manufacturing land use with a fully operational completion by Year 2024.

PROJECT TRIPS

Based on the project trip generation forecast as documented in the Project TIA (see Attachment A), Project Phase 1 (118,314 square foot of manufacturing) is forecast to generate a total of approximately 465 daily vehicle trips, including 73 vehicle trips during the AM peak hour and 79 vehicle trips during the PM peak hour. In PCE trips, Project Phase 1 is forecast to generate a total of approximately 598 daily PCE trips, including 111 PCE trips during the AM peak hour and 104 PCE trips during the PM peak hour.

Completion of the proposed project (231,669 square foot of manufacturing) is forecast to generate a total of approximately 911 daily vehicle trips, including 143 vehicle trips during the AM peak hour and 155 vehicle trips during the PM peak hour. In PCE trips, completion of the proposed project is forecast to generate a total of approximately 1,170 daily PCE trips, including 218 PCE trips during the AM peak hour and 204 PCE trips during the PM peak hour.

VEHICLE MILES TRAVELED (VMT) ANALYSIS

The City of Hemet has not established VMT analysis procedures or thresholds of significance at this time. Therefore, this section provides a background of VMT preliminary VMT assessment in accordance with the State of California "Technical Advisory".

BACKGROUND

California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." In December 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines package. The amended CEQA Guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Traveled (VMT) as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. Agencies may currently opt-in to applying the updated CEQA guidelines for VMT analysis and implementation is required State-wide by July 1, 2020.

The updated CEQA Guidelines allow for lead agency discretion in establishing methodologies and thresholds provided there is substantial evidence to demonstrate that the established procedures promote the intended goals of the legislation. Where quantitative models or methods are unavailable, Section 15064.3 allows agencies to assess VMT qualitatively using factors such as availability of transit and proximity to other destinations. The Technical Advisory on Evaluating Transportation Impacts in CEQA (State of California, December 2018) ["Technical Advisory"] provides technical considerations regarding methodologies and thresholds with a focus on office, residential, and retail developments as these projects tend to have the greatest influence on VMT. At publishing of this report, many jurisdictions are currently in the process of developing updated procedures for VMT analysis.

PROJECT ASSESSMENT

Since City of Hemet has not established VMT analysis procedures at this time, the project VMT assessment is based on guidance from the State's Technical Advisory and the Western Riverside Council of Governments (WRCOG) VMT Screening Tool. The Technical Advisory provides the following potential screening criteria for certain land development projects that may be presumed to result in a less than significant VMT impact:

- Local serving retail, schools, daycare, student housing, etc.
- Small projects generating less than 110 trips per day.
- Residential and office projects located in areas with low-VMT.
- Projects near transit stations or major transit stop.
- Residential projects with a high percentage of affordable housing.

For mixed-use projects, the Technical Advisory recommends that lead agencies can evaluate each component of a mixed-use project independently and apply the thresholds of significance for each lane use (e.g., office and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture.

Screening Assessment for Local-Serving Uses

The Technical Advisory defines local serving retail as less than 50,000 square feet. New retail development typically redistributes shopping trips rather than creating new trips. By adding retail opportunities into the urban fabric and thereby improving proximity, local-serving retail tends to shorten trips and reduce VMT. Similarly, other local serving uses such as schools, daycare, student housing, and public facilities would typically improve the proximity of such uses within the community, thereby shortening travel distances and reducing VMT.

The proposed project is not considered local-serving retail; therefore, this screening criteria does not apply.

Screening Assessment for Small Projects

As noted in the Technical Advisory, CEQA Guidelines § 15301, subdivision (e)(2) provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, so long as the project is in an area where public infrastructure is available to allow for maximum planned development and the project is not in an environmentally sensitive area. Typical project types for which trip generation increases relatively linearly with building footprint (i.e., general office building, single tenant office building, office park, and business park) generate or attract an additional 110-124 trips per 10,000 square feet. Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 or fewer trips could be considered not to lead to a significant impact.

Early adopters of the VMT metric are using similar or slightly higher thresholds for small projects. The Cities of Santa Ana and San Jose, for example, have adopted a screening threshold for small infill projects based on 110 daily trips. The City of Los Angeles has established a screening threshold for projects that generate fewer than 250 net daily trips. The draft guidelines by the San Diego Section of the Institute of Transportation Engineers recommends a screening threshold as high as 1,000 daily trips for projects that are consistent with a General or Community Plan or 500 daily trips for projects that are inconsistent with a General or Community Plan.

The proposed project is forecast to generate more than 110 daily trips; therefore, the proposed project cannot be presumed to result in a less than significant VMT impact under this screening criteria.

Screening Assessment for Projects in Low VMT Areas

The Technical Advisory provides guidance indicating that residential and office projects located in areas with low VMT and that exhibit similar VMT-related features (e.g., density, mix of uses, transit accessibility), will typically exhibit similarly low VMT. Identifying low VMT areas requires maps to be created using VMT data from travel surveys or a travel demand model that illustrate areas that are below the established VMT threshold.

A low-VMT screening analysis has been performed using the WRCOG VMT Screening Tool. The project site consists of Assessor's Parcel Numbers 439030009, 439030010, and 439040023, all of which are located within the Riverside Traffic Analysis Model (RivTAM) Traffic Analysis Zone 4,259. Since the City of Hemet has not established a VMT threshold, Table A below evaluates eight potential thresholds for non-residential uses based on those more commonly observed among early adopters of the VMT metric:

Table A - Low VMT Area Screening Analysis

Metric	Project (TAZ 4259)	Potential Thresholds: Regional Average	15% Below Regional Average	Jurisdictional Average (WRCOG Default)	15% Below Jurisdictional Average
Total VMT / SP	17.30	24.32	20.67	22.75	19.34
Project VMT ≤ threshold?	--	*Yes (Pass)*	*Yes (Pass)*	*Yes (Pass)*	*Yes (Pass)*
Home-Based Work VMT / Worker	6.76	13.53	11.50	7.62	6.48
Project VMT ≤ threshold?	--	*Yes (Pass)*	*Yes (Pass)*	*Yes (Pass)*	*No (Fail)*

Notes:
Source: WRCOG VMT Screening Tool
VMT = Vehicle Miles Traveled; SP = Service Population

As shown in Table A, the proposed project is estimated to generate approximately 17.30 VMT per service population and 6.76 home-based work VMT per worker. The project VMT does not exceed the screening threshold based on jurisdictional average, which is the default screening threshold used in the WRCOG Screening Tool. Additionally, the project satisfies the screening criteria for seven out of the eight potential thresholds evaluated. For purposes of this analysis, the proposed project is presumed to result in a less than significant VMT impact based on the WRCOG low-VMT area screening threshold.

Screening Assessment for Projects Near Transit Stations

As noted in the Technical Advisory, CEQA Guideline Section 15064.3, subdivision (b)(1) states that lead agencies generally should presume that certain projects proposed within one-half mile of an existing major transit stop or an existing stop along a high-quality transit corridor[1] will have a less than significant impact on VMT. This presumption would not apply, however, if project-specific information indicates that the project may still generate significant levels of VMT.

Based on review of the WRCOG VMT Screening Tool, the proposed project is not located within one-half mile of a major transit stop or high-quality transit corridor; therefore, the proposed project cannot be presumed to result in a less than significant VMT impact under this screening criteria.

Screening Assessment for Affordable Housing

The Technical Advisory notes that adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT. In areas where existing jobs-housing match is closer to optimal, lower income housing nevertheless generates less VMT than market-rate housing. Therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. Evidence supports a presumption of less than significant impact for a 100

[1] Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

percent affordable residential development (or the residential component of a mixed-use development) in infill locations. Lead agencies may develop their own presumption of less than significant impact for residential projects containing a particular amount of affordable housing, based on local circumstances and evidence. Furthermore, a project which includes any affordable residential units may factor the effect of the affordability on VMT into the assessment of VMT generated by those units.

The proposed project does not include affordable housing; therefore, this screening criteria does not apply.

CONCLUSION

The proposed project is presumed to result in a less than significant VMT impact based on the WRCOG low-VMT area screening threshold.

It has been a pleasure to assist you with this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100.

Sincerely,

REGISTERED PROFESSIONAL ENGINEER
GIANCARLO J. GANDDINI
TR 2663
TRAFFIC
STATE OF CALIFORNIA

Perrie Ilercil, PE (AZ)
Senior Engineer

Giancarlo Ganddini, TE, PTP
Principal

ATTACHMENT A

S2A MODULAR MANUFACTURING PROJECT TRIP GENERATION TABLE

Table 2
Project Trip Generation

Land Use/Vehicle Type	Source[1]	Trip Generation Rates per TSF[2]						
		AM Peak Hour			PM Peak Hour			
		% In	% Out	Total	% In	% Out	Total	Daily
Manufacturing	ITE 140	77%	23%	0.62	31%	69%	0.67	3.93
Percent Cars	[a]	--	--	60.53%	--	--	76.83%	78.60%
Percent Trucks	[a]	--	--	39.47%	--	--	23.17%	21.40%
Car Trips per TSF		0.289	0.086	0.375	0.160	0.355	0.515	3.089
Truck Trips per TSF		0.188	0.056	0.244	0.048	0.107	0.155	0.841
Truck Breakdown by Axle	Percent[3]							
2-Axle Trucks	32.70%	0.061	0.018	0.079	0.016	0.035	0.051	0.275
3-Axle Trucks	17.90%	0.034	0.010	0.044	0.009	0.019	0.028	0.151
4+ Axle Trucks	49.40%	0.093	0.028	0.121	0.024	0.053	0.077	0.415

Land Use/Vehicle Type	Quantity (TSF)	Vehicle Trips Generated						
		AM Peak Hour			PM Peak Hour			
		In	Out	Total	In	Out	Total	Daily
Manufacturing	231.669							
Cars		67	20	87	37	82	119	716
Trucks								
2-Axle Trucks		14	4	18	4	8	12	64
3-Axle Trucks		8	2	10	2	4	6	35
4+ Axle Trucks		22	6	28	6	12	18	96
Subtotal Trucks		44	12	56	12	24	36	195
Subtotal Phase 1	118.314	57	16	73	25	54	79	465
Subtotal Phase 2	113.355	54	16	70	24	52	76	446
TOTAL VEHICLE TRIPS GENERATED		**111**	**32**	**143**	**49**	**106**	**155**	**911**

Land Use/Vehicle Type	Quantity (TSF)	Passenger Car Equivalent (PCE) Trips Generated						
		AM Peak Hour			PM Peak Hour			
		In	Out	Total	In	Out	Total	Daily
Manufacturing	231.669							
Cars		67	20	87	37	82	119	716
Trucks	PCE Factor[4]							
2-Axle Trucks	1.5	21	6	27	6	12	18	96
3-Axle Trucks	2.0	16	4	20	4	9	13	70
4+ Axle Trucks	3.0	65	19	84	17	37	54	288
Subtotal Trucks	--	102	29	131	27	58	85	454
Phase 1 (Cars)	118.314	34	10	44	19	42	61	366
Phase 1 (Trucks)		52	15	67	14	29	43	232
Subtotal Phase 1		86	25	111	33	71	104	598
Phase 2 (Cars)	113.355	33	10	43	18	40	58	350
Phase 2 (Trucks)		50	14	64	13	29	42	222
Subtotal Phase 2		83	24	107	31	69	100	572
TOTAL VEHICLE TRIPS GENERATED		**169**	**49**	**218**	**64**	**140**	**204**	**1,170**

Notes:
(1) Source:
ITE = Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017, Land Use Code ### (page 40 to 41).
[a] City of Fontana, Truck Trip Generation Study, August 2003. Light industrial values used for manufacturing (page 13 and 22).
(2) TSF = Thousand Square Feet
(3) Truck by axle percentages obtained from City of Fontana, Truck Trip Generation Study, August 2003.
(4) PCE factors recommended by County of San Bernardino Congestion Management Program.