CITY OF MERCED
PLANNING & PERMITTING DIVISION

TYPE OF PROPOSAL: General Plan Amendment #24-02/ Site Utilization Plan Revision #3 to Planned Development #20/ Vesting Tentative Subdivision Map #1332 / Site Plan #551/ Minor Use Permit #24-13

INITIAL STUDY: #24-25

DATE RECEIVED: August 15, 2024 (date application determined to be complete)

LOCATION: 1380 Yosemite Avenue, Merced CA 95340

ASSESSOR'S PARCEL NUMBERS: 006-050-072, 006-050-068
(SEE ATTACHED MAP AT ATTACHMENT A)

Please forward any written comments by March 19, 2025 to:

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Applicant Contact Information:

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PROJECT DESCRIPTION

The Project site consists of two parcels that total approximately 8.05 acres located at 1380 Yosemite Avenue (APN: 006-050-068) and 3595 Parsons Avenue (APN: 006-050-072) (Attachment A). The subject site has a General Plan designation of Commercial Office (CO) and a Zoning classification of Planned Development #20. The subject site is surrounded by a variety of uses which include residential to the east south and west, Episcopal Church of the Resurrection to the north and University Surgery Center immediately to the northeast vicinity of the project site.

The applicant is requesting approval to develop 41 single-family homes and a self-storage facility. 17 of the 41 of the residential lots would be single story homes and the remaining 24 would be two-story homes. The proposed residential lots would range in size between 2,160 square feet and 5,374 square feet. These lots would be located within the southern portion of the subject site on approximately 4.48 acres. The remaining 2.72 acres would be used to establish a self-storage facility.

The developer has yet to submit building designs for the 41 residential lots. Because this site has a zoning classification of Planned Development, the building design/elevations shall be reviewed

and approved by Planning Staff prior to issuance of a building permit for this subdivision. The homes shall be required to comply with the City's minimum design standards for single-family homes as required under Merced Municipal Code Section 20.46.020 - Design Standards for Single-Family Dwellings and Mobile Homes. The minimum parking requirement for single-family homes is one parking space per unit. However, each one of these units would have two parking spaces located within a garage.

The northern portion of the parcel along E. Yosemite Avenue, would be reserved for the self-storage facility with approximately 500 storage units. The applicant has provided a site plan, floor plans, and elevations for this proposal. Attachment B illustrates the proposed structures (Site Plan, Floor Plan, and Elevations). The storage facility would be composed of five storage buildings, the office would be attached into one of those storage buildings. The office would be the most visible structure to the public located along E Yosemite Avenue. The exterior of the office would consist of terra cotta tile roofing, walls with stucco finish, stone veneer accents, and storefront windows. The storage spaces would range in dimensions between 5 feet by 5 feet, and 10 feet by 25 feet. The storage buildings would have a metal finish. The back of the storage units along the eastern, southern and western property lines would consist of a 12 to 14-foot-tall block wall. The northern property line would be secured with a wrought iron perimeter fence.

Project Location

The subject site is located within the northeast quadrant of Merced. The subject site is surrounded by a variety of uses which include residential to the east south and west, the Episcopal Church of the Resurrection to the north and University Surgery Center immediately to the northeast. The table below identifies the surrounding uses:

Table 1 Surrounding Uses (Refer to Attachment A)

Surrounding Land	Existing Use of Land	Zoning Designation	City General Plan Land Use Designation
North	Single-Family Homes and Church	Low Density Residential (R-1-6)	Low Density Residential (LDR)
South	Single-Family Homes	Low Density Residential (R-1-6)	Low Density Residential (LDR)
East	Single-Family Homes and University Surgery Center	Low Density Residential (R-1-6) and Planned Development #20	Low Density Residential (LDR) and Commercial Office (CO)
West	Single-Family Homes	Low Density Residential (R-1-6)	Low Density Residential (LDR)

1. INITIAL FINDINGS

A. The proposal is a project as defined by CEQA Guidelines Section 15378.

B. The Project is not a ministerial or emergency project as defined under CEQA Guidelines (Sections 15369 and 15369).

C. The Project is therefore discretionary and subject to CEQA (Section 15357).

D. The Project is not Categorically Exempt.

E. The Project is not Statutorily Exempt.

F. Therefore, an Environmental Checklist has been required and filed.

2. CHECKLIST FINDINGS

A. An on-site inspection was made by this reviewer on February 6, 2025.

B. The checklist was prepared on February 20, 2025.

C. The *Merced Vision 2030 General Plan* and its associated Environmental Impact Report [EIR (SCH# 2008071069)] were certified in January 2012. The document comprehensively examined the potential environmental impacts that may occur as a result of build-out of the 28,576-acre Merced (SUDP/SOI). For those significant environmental impacts (Loss of Agricultural Soils and Air Quality) for which no mitigation measures were available, the City adopted a Statement of Overriding Considerations (City Council Resolution #2011-63). This document herein incorporates by reference the *Merced Vision 2030 General Plan, the General Plan Program EIR* (SCH# 2008071069), and Resolution #2011-63.

As a subsequent development project within the SUDP/SOI, many potential environmental effects of the Project have been previously considered at the program level and addressed within the General Plan and associated EIR. (Copies of the General Plan and its EIR are available for review at the City of Merced Planning and Permitting Division, 678 West 18th Street, Merced, CA 95340.) As a second tier environmental document, Initial Study #24-25 plans to incorporate goals and policies to implement actions of the *Merced Vision 2030 General Plan*, along with mitigation measures from the General Plan EIR, as mitigation for potential impacts of the Project.

Project-level environmental impacts and mitigation measures (if applicable) have been identified through site-specific review by City staff. This study also utilizes existing technical information contained in prior documents and incorporates this information into this study.

3. ENVIRONMENTAL IMPACTS:

Will the proposed project result in significant impacts in any of the listed categories? Significant impacts are those that are substantial, or potentially substantial, changes that may adversely affect the physical conditions within the area affected by the Project including land, air, water, minerals,

flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant. (Section 15372, State CEQA Guidelines. Appendix G of the Guidelines contains examples of possible significant effects.)

A narrative description of all "potentially significant," "negative declaration: potentially significant unless mitigation incorporated," and "less than significant impact" answers are provided within this Initial Study.

A. Aesthetics

SETTING AND DESCRIPTION

The project site is located in northeast Merced, approximately 3 miles northwest of Downtown and two- and three-quarter miles north of Highway 99. The project site consists of an undeveloped lot of approximately 8.05 acres. The subject site is surrounded by a variety of uses which include medical offices to the west, a church and residential to the north and more residential to the east and south. The proposed building range in height, between 16 and 27 feet. The Medical Offices adjacent and church across the street also have similar heights.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
A. <u>Aesthetics.</u> Will the Project:				
1) Have a substantial adverse effect on a scenic vista?				✓
2) Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
3) Substantially degrade the existing visual character or quality of the site and its surroundings?			✓	
4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

1) **No Impact**

No designated scenic vistas exist on the project site or in the project area. Therefore, no impacts in this regard would occur with this development.

2) **No Impact**

There are no officially designated State Scenic Highways or Routes in the project vicinity. Therefore, the Project would have no impact on scenic resources, such as rock outcroppings, trees, or historic buildings within a scenic highway.

3) **Less-Than-Significant Impact**

The proposed Project would transform the site from an undeveloped site to a mostly fully developed site. Undeveloped lots tend to lead to concerns about weed abatement, waste drop-off, and general dilapidation. The proposed storage, homes, and streets would mostly develop the site. The homes would add architectural interest with the use of stucco, and board and batten. Based on these factors, this impact is considered to be less than significant.

4) **Less Than Significant**

Construction of the proposed project and off-site improvements include new lighting on the homes and throughout the site. This new lighting could be a source of light or glare that would affect the views in the area. However, the City of Merced has adopted the California Green Building Standards Code (CGBSC) as Section 17.07 of the Merced Municipal Code. As administered by the City, the Green Building Standards Code prohibits the spillage of light from one lot to another. This would prevent new glare effects on the existing buildings surrounding the project site.

B. Agriculture Resources

Setting and Description

Merced County is among the largest agriculture producing Counties in California (ranked fifth), with a gross income of more than $4.4 billion. The County's leading agriculture commodities include milk, almonds, cattle and calves, chickens, sweet potatoes, and tomatoes.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
B. <u>Agriculture Resources.</u> Will the Project:				
1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and monitoring Program of the California Resources Agency, to non-agriculture?				✓

2) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
3) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				✓
4) Cause development of non-agricultural uses within 1,000 feet of agriculturally zoned property (Right-to-Farm)?				✓

1) **No Impact**

The project site is located within the City Limits of Merced. The California Department of Conservation prepares Important Farmland Maps through its Farmlands Mapping and Monitoring Program (FMMP). The system of classifying areas is based on soil type and use. According to the Merced County Important Farmlands Map, the project site is classified as "Grazing Land." The conversion of this land from an undeveloped lot to a developed urban parcel was analyzed as part of the Environmental Review for the *Merced Vision 2030 General Plan*. The development on "Grazing Land" that is not "Prime Farmland Unique Farmland, or Farmland of Statewide Importance (Farmland)" is considered to have no impact. Therefore, CEQA requires no further review.

2) **No Impact**

There are no Williamson Act contract lands in this area and the land is not being used for agricultural uses. Therefore, there is no impact.

3) **No Impact**

Refer to Item #1 above.

4) **No Impact**

The nearest land being used for farming is located approximately five hundred feet northwest of the subject site, across N Gardner Ave. The proposed development would not affect farming operations.

C. Air Quality

SETTING AND DESCRIPTION

The project site is in the San Joaquin Valley Air Basin (SJVAB), which includes the southern half of the Central Valley and is approximately 250 miles long and an average of 35 miles wide. The Coast Ranges, which have an average height of 3,000 feet, serve as the western border of the SJVAB. The San Emigdio Mountains, part of the Coast Ranges, and the Tehachapi Mountains, part of the Sierra Nevada, are both south of the SJVAB. The Sierra Nevada extends in a northwesterly direction and forms the air basin's eastern boundary. The SJVAB is mostly flat with a downward gradient to the northwest.

The climate of the SJVAB is heavily influenced by the presence of these mountain ranges. The mountain ranges to the west and south induce winter storms from the Pacific Ocean to release precipitation on the western slopes, producing a partial rain shadow over the valley. A rain shadow is defined as the region on the leeward side of a mountain where noticeably less precipitation occurs because clouds and precipitation on the windward side remove moisture from the air. In addition, the mountain ranges block the free circulation of air to the east and entrap stable air in the Central Valley for extended periods during the cooler months.

Winters in the SJVAB are mild and fairly humid, and summers are hot, dry, and typically cloudless. During the summer, a high-pressure cell is centered over the northeastern Pacific, resulting in stable meteorological conditions and steady northwesterly winds.

For additional information see Appendix A for combined studies on Air Quality, and Green House Gas Emissions.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
C. <u>Air Quality.</u> Would the project:				
1) Conflict with or obstruct implementation of the applicable air quality plan?			✓	
2) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O_3 precursors)?			✓	
3) Expose sensitive receptors to substantial pollutant concentrations?			✓	
4) Create objectionable odors affecting a substantial number of people?			✓	

Impacts are evaluated below on the basis of both State CEQA Guidelines Appendix G criteria and SJVAPCD significance criteria.

SJVAPCD's thresholds for determining environmental significance separate a project's short-term emissions from long-term emissions. The short-term emissions are related mainly to the construction phase of a project. For this project, the long-term emissions are related primarily to household trips.

1) **Less-than-Significant Impact**

Thresholds of significance applied in this report are from the San Joaquin Valley Air Pollution Control District (SJVAPCD) is "Guidance for Assessing and Mitigating Air Quality Impacts" (GAMAQI) (San Joaquin Valley Air Pollution Control District 2015). These thresholds define an identifiable quantitative, qualitative, or performance level of a particular environmental effect. Project-related emission levels which exceed any of the thresholds of significance means the project-related effect will normally be considered significant. Project related emissions at or below the thresholds of significance means the project-related effect normally will be considered to be less than significant.

The SJVAPCD has established thresholds of significance for criteria pollutant emissions generated during construction and operation of projects. These Thresholds may be found in Table 1 of the Air Quality analysis at Appendix A. The significance thresholds presented in the SJVAPCD GAMAQI are based on the attainment status of the San Joaquin Valley Air Basin in regard to air quality standards for specific criteria pollutants. Because the air quality standards are set at concentrations that protect public health with an adequate margin of safety, these emission thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

For a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. As shown on Tables 2 and 3 of the Air Quality Analysis at Appendix A, both the construction and operational emissions are below the thresholds of significance for the SJVAPCD air quality plans. Table 7 of the Air Quality Analysis at Appendix A shows the Project's GHG emissions and evaluates them against the SMAQMD significance threshold. Operational efficiency measures incorporate typical code-required energy and water conservation features. Off-site traffic impacts are included in these emissions estimates, along with construction emissions amortized over 30 years. As shown in Table 7, the proposed Project would not exceed emissions thresholds adopted by SMAQMD.

2) **Less-than-Significant Impact**

Although SJVAPCD does not have any quantitative cumulative significant criteria, air quality is cumulative in nature. CAAQS are predicated on past, present, and future emissions; therefore, if project-related emission are found to have a less-than-significant impact in the near-term conditions, then cumulative impacts would also be less-than-significant. Project-related air quality impacts were found to be less- than-significant in the near-term conditions; therefore, the project would not adversely affect regional air quality in the future. Therefore, this impact would be less than significant.

3) **Less-than-Significant Impact**

Construction of the proposed project may expose surrounding sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, based on the findings of the Air Quality Analysis at Appendix A, the construction emissions would not exceed the

SJVAPCD construction threshold levels. Using CalEEMod, direct on-site and off-site GHG emissions were estimated for construction and operation, and indirect off-site GHG emissions were estimated to account for electric power used by the proposed Project, water conveyance, and solid waste disposal. CalEEMod also quantifies common refrigerant GHGs (abbreviated as "R" in the model output) used in air conditioning and refrigeration equipment, some of which are HFCs. Additionally, the Analysis indicates that operational emissions would not exceed the SJVAPCD threshold levels. Therefore, this impact is considered less than significant.

4) **Less-than-Significant Impact**

Given the use of heavy equipment during construction, the time- of-day heavy equipment would be operated, and the distance to the nearest sensitive receptor, the project would not emit objectionable odors that would be adversely affect a substantial number of people. Operation of the project would not emit odors. Therefore, construction and operation of the project would have a less-than-significant impact associated with odors. This impact would be less than significant.

D. Biological Resources

SETTING AND DESCRIPTION

The project site is located in northeast Merced, approximately three miles northwest of Downtown and two- and three-quarter miles east of Highway 99. The project site consists of an undeveloped lot of approximately 8.05 acres. The subject site is surrounded by a variety of uses which include University Surgery Center to the west, Episcopal Church of the Resurrection church and residential to the north and more residential to the east and south. The proposed building range in height, between 16 and 27 feet. The Medical Offices adjacent and church across the street also have similar heights.

The general project area is located in the Central California Valley eco-region (Omernik 1987). This eco-region is characterized by flat, intensively farmed plains with long, hot, dry summers and cool, wet winters (14-20 inches of precipitation per year). The Central California Valley eco-region includes the Sacramento Valley to the north, the San Joaquin Valley to the south, and it ranges between the Sierra Nevada Foothills to the east and the Coastal Range foothills to the west. Nearly half of the eco-region is actively farmed, and about three-fourths of that farmed land is irrigated.

The biological resources evaluation, prepared as part of the *Merced Vision 2030 General Plan Program Environmental Impact Report* (EIR), does not identify the project area as containing any seasonal or non-seasonal wetland or vernal pool areas. Given the adjacent, built-up, urban land uses/agricultural uses and major roadways, no form of unique, rare or endangered species of plant and/or animal life could be sustained on the subject site.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
D. <u>Biological Resources.</u> Would the Project:				
1) Have a substantial adverse effect, either directly or through habitat modification, 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?				✓
2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			✓	
3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				✓
5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			✓	
6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

1) **No Impact**

The proposed project would not have any direct effects on animal life by changing the diversity of species, number of species, reducing the range of any rare or endangered species, introducing any new species, or leading to deterioration of existing fish or wildlife habitat. Although the *Merced Vision 2030 General Plan* identifies several species of plant and animal life that exist within the City's urban boundaries, the subject site does not contain any rare or endangered species of plant or animal life.

2) **Less-than -Significant Impact**

The proposed project would not have any direct effects on riparian habitat or any other sensitive natural community. The City General Plan identifies Bear, Black Rascal, Cottonwood, Miles, Fahrens, and Owens Creeks within the City's growth area. The subject site is approximately 1.45 miles north of Bear Creek and approximately 0.55 miles north of Black Rascal Creek. These creeks are Waters of the U.S. under the jurisdiction of the U.S. Army Corps of Engineers (ACOE), the California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board. As previously mentioned, Black Rascal Creek is located south of the subject site outside of subject site's boundary lines. The proposed would have to comply with Merced Municipal Code Chapter 20.34– Creek Buffers which requires a buffer of twenty-five (25) feet in width measured from the top of bank or fifty (50) feet in width measured from centerline of any intermittent or perennial stream or river landward, whichever is greater. This is intended to reduce the risks to property owners and the public from erosion and flooding, protect and enhance chemical, physical, and biological integrity of water resources in the City, minimize pollutants entering water bodies from urban stormwater runoff, and preserve riparian vegetation and protect vegetation fand protect wildlife habitats and wildlife corridors along natural drainage ways.

Any proposed "fill" of that waterway would be subject to permits from ACOE, CDFW, and the Regional Water Quality Control Board. No such "fill" or disturbance of the waterway is proposed as part of this development. The City's General Plan requires the preservation of the creek in its natural state. No riparian habitat identified in CDFW or USFW plans are present on the project site. Therefore, the Project would have a less-than-significant impact on riparian habitat.

3) **No Impact**

The project site would not have any direct effect on wetlands as no wetlands have been identified in the project area.

4) **No Impact**

The Project would not have any adverse effects on any resident or migratory fish or wildlife species or with established native resident migratory wildlife corridor, or impede the use of native wildlife nursery sites.

5) **Less Than Significant Impact**

The Project would not interfere with any local policies or ordinances protecting biological resources such as tree preservation policy or ordinance. The City requires the planting and maintenance of street trees along all streets and parking lot trees in parking lots, but has no other tree preservation ordinances.

6) **No Impact**

The proposed project would not conflict with the provisions of a habitat conservation plan. There are no adopted Habitat Conservation Plans, Natural Conservation Community Plan, or other approved local, regional, or state Habitat Conservation Plan for the City of Merced or Merced County.

E. Cultural Resources

SETTING AND DESCRIPTION

The City of Merced area lies within the ethnographic territory of the Yokuts people. The Yokuts were members of the Penutian language family which held all of the Central Valley, San Francisco Bay Area, and the Pacific Coast from Marin County to near Point Sur.

Merced County was first explored by Gabriel Moraga in 1806, when he named the Merced River, "El Rio de Nuestra Senora de la Merced." Moraga's explorations were designed to locate appropriate sites for an inland chain of missions. Moraga explored the region again in 1808 and 1810.

Archaeology

Archaeological sites are defined as locations containing significant levels of resources that identify human activity. Very little archaeological survey work has been conducted within the City or its surrounding areas. Creeks, drainage, and sloughs exist in the northern expansion area of the City, and Bear Creek and Cottonwood Creek pass through the developed area. Archaeological sites in the Central Valley are commonly located adjacent to waterways and represent potential for significant archaeological resources.

Paleontological sites are those that show evidence of pre-human existence. They are small outcroppings visible on the earth's surface. While the surface outcroppings are important indications of paleontological resources, it is the geological formations that are the most important. There are no known sites within the project area known to contain paleontological resources of significance.

Historic Resources

In 1985, in response to community concerns over the loss of some of the City's historic resources, and the perceived threats to many remaining resources, a survey of historic buildings was undertaken in the City. The survey focused on pre-1941 districts, buildings, structures, and objects of historical, architectural, and cultural significance. The survey area included a roughly four square-mile area of the central portion of the City.

The National Register of Historic Places, the California Historical Landmarks List, and the California Inventory of Historic Resources identify several sites within the City of Merced. These sites are listed on the Merced Historical Site Survey and are maintained by the Merced Historical Society. There are no listed historical sites on the project site.

According to the environmental review conducted for the General Plan, there are no listed historical sites and no known locations within the project area that contain sites of paleontologic or archeological significance. The General Plan (Implementation Action SD-2.1.a) requires that the City utilize standard practices for preserving archeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
E. <u>Cultural Resources.</u> Would the Project:				
1) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?			✓	
2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?			✓	
3) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			✓	
4) Disturb any human remains, including those interred outside of formal cemeteries?			✓	

1) **Less-than-Significant Impact**

The Project would not alter or destroy any known historic or archaeological site, building, structure, or object; nor would it alter or affect unique ethnic cultural values or restrict religious or sacred uses. According to the environmental review conducted for the General Plan, there are no listed historical sites and no known locations within the project area that contain sites of historical or archeological significance. The General Plan (Implementation Action SD-2.1.a) requires that the City utilize standard practices for preserving archeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation.

2) **Less-than-Significant Impact**

The Project would not alter or destroy any known prehistoric or archaeological site, building, structure, or object; nor would it alter or affect unique ethnic cultural values or restrict religious or sacred uses. According to the environmental review conducted for the General Plan, there are no listed historical sites and no known locations within the project area that contain sites of historical or archeological significance. The General Plan (Implementation Action SD-2.1.a) requires that the City utilize standard practices for preserving archeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation.

3) **Less-than-Significant Impact**

The Project would not alter or destroy any paleontological resource, site, or unique geological feature. According to the environmental review conducted for the General Plan, there are no listed historical sites and no known locations within the project area that contain sites of paleontological significance. The General Plan (Implementation Action SD-2.1.a) requires that the City utilize standard practices for preserving archeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation.

4) **Less-than-Significant Impact**

The proposed project would not disturb any known human remains, including those interred outside of formal cemeteries; nor would it alter or affect unique ethnic cultural values or restrict religious or sacred uses. There are no known cemeteries in the project area. Excavation of the site would be needed to construct the proposed project, so it is possible that human remains would be discovered. However, Section 7050.5 of the California Health and Safety Code requires that if human remains are discovered during the construction phase of a development, all work must stop in the immediate vicinity of the find and the County Coroner must be notified. If the remains are determined to be Native American, the Coroner will notify the Native American Heritage Commission, which in turn will inform a most likely descendant. The descendant will then recommend to the landowner the appropriate method for the disposition of the remains and any associated grave goods. Additionally, the City's General Plan (Implementing Action SD-2.1.a) requires that the City utilize standard practices for preserving archeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation. By following the requirements of the Health and Safety Code and Compliance with the City's General Plan, this potential impact would be less than significant.

F. Geology and Soils

SETTING AND DESCRIPTION

The City of Merced is located approximately 150 miles southeast of San Francisco along the east side of the southern portion of the Great Valley Geomorphic Province, more commonly referred to as the San Joaquin Valley. The valley is a broad lowland bounded by the Sierra Nevada to the east and Coastal Ranges to the west. The San Joaquin Valley has been filled with a thick sequence of sedimentary deposits from Jurassic to recent age. A review of the geological map indicates that the area around Merced is primarily underlain by the Pleistocene Modesto and Riverbank Formations with Holocene alluvial deposits in the drainages. Miocene-Pliocene Mehrten and Pliocene Laguna Formation materials are present in outcrops on the east side of the SUDP/SOI. Modesto and Riverbank Formation deposits are characterized by sand and silt alluvium derived from weathering of rocks deposited east of the SUDP/SOI. The Laguna Formation is made up of consolidated gravel sand and silt alluvium and the Mehrten Formation is generally a well consolidated andesitic mudflow breccia conglomerate.

Faults and Seismicity

A fault, or a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side, are an indication of past seismic activity. It is assumed that those that have been active recently are the most likely to be active in the future, although even inactive faults may not be "dead." "Potentially Active" faults are those that have been active during the past two million years or during the Quaternary Period. "Active" faults are those that have been active within the past 11,000 years. Earthquakes originate where movement or slippage occurs along an active fault. These movements generate shock waves that result in ground shaking.

Based on review of geologic maps and reports for the area, there are no known "active" or "potentially active" faults, or Alquist-Priolo Earthquake Fault Zones (formerly referred to as a

Special Studies Zone) in the SUDP/SOI. In order to determine the distance of known active faults within 50 miles of the Site, the computer program EZ-FRISK was used in the General Plan update.

Soils

Soil properties can influence the development of building sites, including site selection, structural design, construction, performance after construction, and maintenance. Soil properties that affect the load-supporting capacity of an area include depth to groundwater, ponding, flooding, subsidence, shrink-swell potential, and compressibility.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
F. <u>Geology and Soils.</u> Would the Project:				
1) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
a) 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?			✓	
b) Strong seismic ground shaking?			✓	
c) Seismic-related ground failure, including liquefaction?				✓
d) Landslides?				✓
2) Result in substantial soil erosion or loss of topsoil?			✓	
3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?			✓	
4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			✓	
5) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water				✓

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
disposal systems where sewers are not available for the disposal of waste water?				

1) **Less than Significant Impact**

A), B)The project site is not located within a mapped fault hazard zone, and there is no record or evidence of faulting on the project site (City of Merced General Plan Figure 11.1). Because no faults underlie the project site, no people or structures would be exposed to substantial adverse effects related to earthquake rupture.

Ground shaking of moderate severity may be expected to be experienced on the project site during a large seismic event. All building permits are reviewed to ensure compliance with the California Building Code (CBC). In addition, the City enforces the provisions of the Alquist Priolo Special Study Zones Act that limit development in areas identified as having special seismic hazards. All new structures shall be designed and built-in accordance with the standards of the California Building Code.

C) According to the City's *Merced Vision 2030 General Plan* EIR*,* the probability of soil liquefaction occurring within the City of Merced is considered to be a low to moderate hazard; however, a detailed geotechnical engineering investigation would be required for the project in compliance with the California Building Code (CBC).

There would be no exposure to any geological hazards in the project area.

THEREFORE, NO HAZARDOUS CONDITIONS RELATED TO SEISMIC GROUND SHAKING WOULD OCCUR WITH THE IMPLEMENTATION OF THE PROJECT. ADDITIONALLY, THE IMPLEMENTATION OF THE PROJECT WOULD NOT LEAD TO OFFSITE EFFECTS RELATED TO HAZARDS RELATED TO SEISMIC GROUNDSHAKING, NOR WOULD ANY EXISTING OFF-SITE HAZARDS BE EXACERBATED.APPLICABLE GENERAL PLAN GOALS AND POLICIES

The City's *Merced Vision 2030 General Plan* contains policies that address seismic safety.

Goal Area S-2: Seismic Safety:	
Goal: Reasonable Safety for City Residents from the Hazards of Earthquake and Other Geologic Activity	
Policies	
S-2.1	Restrict urban development in all areas with potential ground failure characteristics.

D) The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

Landslides generally occur on slopes of 15 percent or greater. The project site's topography is generally of slopes between 0 and 3 percent, which are considered insufficient to produce hazards other than minor sliding during seismic activity.

2) **Less-Than-Significant Impact**

Construction associated with the proposed project could result in temporary soil erosion and the loss of topsoil due to construction activities, including clearing, grading, site preparation activities, and installation of the proposed buildings and other improvements. The City of Merced enforces a Storm Water Management Program in compliance with the Federal Clean Water Act. All construction activities are required to comply with the City's Erosion and Sediment Control Ordinance (MMC §15.50.120.B), including the implementation of Best Management Practices (BMPs) to limit the discharge of sediment.

3) **Less Than Significant Impact**

The City of Merced is located in the Valley area of Merced County and is, therefore, less likely to experience landslides than other areas in the County. The probability of soil liquefaction actually taking place anywhere in the City of Merced is considered to be a low hazard. Soil types in the area are not conducive to liquefaction because they are either too coarse or too high in clay content. According to the *Merced Vision 2030 General Plan* EIR, no significant free face failures were observed within this area and the potential for lurch cracking and lateral spreading is, therefore, very low within this area.

4) **Less-Than-Significant**

Expansive soils are those possessing clay particles that react to moisture changes by shrinking (when they dry) or swelling (when they become wet). Expansive soils can also consist of silty to sandy clay. The extent of shrinking and swelling is influenced by the environment, extent of wet or dry cycles, and by the amount of clay in the soil. This physical change in the soils can react unfavorably with building foundations, concrete walkways, swimming pools, roadways, and masonry walls.

Implementation of General Plan Policies, adherence to the Alquist-Priolo Act, and enforcement of the California Building Code (CBC) Standards would reduce the effect of this hazard on new buildings and infrastructure associated with the proposed development. This would reduce potential impacts to a less-than-significant level.

5) **No Impact**

The project site would not 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. However, the proposed project would be served by the City's sewer system. No new septic systems are allowed within the City Limits and any existing systems will need to be removed upon demolition of the current home on the site.

G. Hazards and Hazardous Materials

SETTING AND DESCRIPTION

Hazardous Materials

A substance may be considered hazardous due to a number of criteria, including toxicity, ignitability, corrosivity, or reactivity. The term "hazardous material" is defined in law as any material that, because of quantity, concentration, or physical, or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

Wildland and Urban Fire Hazards

Both urban and wildland fire hazard potential exists in the City of Merced and surrounding areas, creating the potential for injury, loss of life, and property damage. Urban fires primarily involve the uncontrolled burning of residential, commercial, or industrial structures due to human activities. Wildland fires affect grassland, brush or woodlands, and any structures on or near these fires. Such fires can result from either human made or natural causes.

Urban fires comprise the majority of fires in the City of Merced. The site is adjacent to undeveloped ag land which could be a source for a wildland fire. However, the City of Merced Fire Department has procedures in place to address the issue of wildland fires, so no additional mitigation would be necessary.

Airport Safety

The City of Merced is impacted by the presence of two airports-Merced Regional Airport, which is in the southwest corner of the City, and Castle Airport (the former Castle Air Force Base), located approximately seven miles northwest of the subject site.

The continued operation of the Merced Regional Airport involves various hazards to both flight (physical obstructions in the airspace or land use characteristics which affect flight safety) and safety on the ground (damage due to an aircraft accident). Growth is restricted around the Regional Airport in the southwest corner of the City due to the noise and safety hazards associated with the flight path.

Castle Airport also impacts the City. Portions of the northwest part of the City's SUDP/SOI and the incorporated City are within Castle's safety zones. The primary impact is due to noise (Zones C and D), though small areas have density restrictions (Zone B2). The military discontinued operations at Castle in 1995. One important criterion for determining the various zones is the noise factor. Military aircraft are designed solely for performance, whereas civilian aircraft have extensive design features to control noise.

Potential hazards to flight include physical obstructions and other land use characteristics that can affect flight safety, which include: visual hazards such as distracting lights, glare, and sources of smoke; electronic interference with aircraft instruments or radio communications; and uses which may attract flocks of birds. In order to safeguard an airport's long-term usability, preventing encroachment of objects into the surrounding airspace is imperative.

According to the Merced County Airport Land Use Compatibility Plan, the project site is not located in any restricted safety zones for either airport, and no aircraft overflight, air safety, or noise concerns are identified.

Railroad

Hazardous materials are regularly shipped on the BNSF and SP/UP Railroad lines that pass through the City. While unlikely, an incident involving the derailment of a train could result in the spillage of cargo from the train in transporting. The spillage of hazardous materials could have devastating results. The City has little to no control over the types of materials shipped via the rail lines. There is also a safety concern for pedestrians along the tracks and vehicles utilizing at-grade crossings. The design and operation of at-grade crossings allows the City some control over rail-related hazards. Ensuring proper gate operation at the crossings is the most effective strategy to avoid collision and possible derailments. The Burlington Northern Santa Fe Railroad is approximately 2.20 miles from the site and Union Pacific Railroad is over 3.0 miles away.

Public Protection and Disaster Planning

Hospitals, ambulance companies, and fire districts provide medical emergency services. Considerable thought and planning have gone into efforts to improve responses to day-to-day emergencies and planning for a general disaster response capability.

The City's Emergency Plan and the County Hazardous Waste Management Plan both deal with detailed emergency response procedures under various conditions for hazardous material spills. The City also works with the State Department of Health Services to establish cleanup plans and to monitor the cleanup of known hazardous waste sites within the City.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
G. <u>Hazards and Hazardous Materials.</u> Would the Project:				
1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
2) 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?				✓
3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				✓
6) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				✓
7) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			✓	
8) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			✓	

1) **Less-Than-Significant Impact**

Construction activities associated with the proposed project would involve the use, storage, transport, and disposal of oil, gasoline, diesel fuel, paints, solvents, and other hazardous materials. The Project would be required to adhere to all applicable federal and state health and safety standards. Construction activity must also be in compliance with the California Occupational Safety and Health Administration regulations (Occupational Safety and Health Act of 1970). Compliance with these requirements would reduce the risk of hazards to the public to a less-than-significant level.

2) **No Impact**

Construction on the project site would be reviewed for the use of hazardous materials at the building permit stage. Implementation of Fire Department and Building Code regulations for hazardous materials, as well as implementation of federal and state requirements, would reduce any risk caused by a future use on the site from hazardous materials to a less than-significant-level.

APPLICABLE GENERAL PLAN GOALS AND POLICIES

The City of Merced *Vision 2030 General Plan* contains policies that address hazardous materials.

Goal Area S-7: Hazardous Materials
Goal: Hazardous Materials Safety for City Residents
Policies

S-2.1	Prevent injuries and environmental contamination due to the uncontrolled release of hazardous materials.
Implementing Actions:	
7.1.a	Support Merced County in carrying out and enforcing the Merced County Hazardous Waste Management Plan.
7.1.b	Continue to update and enforce local ordinances regulating the permitted use and storage of hazardous gases, liquids, and solids.
7.1.d	Provide continuing training for hazardous materials enforcement and response personnel.

3) **No Impact**

The nearest school is Providence Christian School, located approximately 0.4 miles east of the subject site at 2142 E Yosemite Avenue. There are no other existing or proposed schools within ¼ mile of the site. Given the California Building Code protective measures required during the construction process, there would be no impacts from this development for any schools within ¼ mile of the site. Post-construction the site would be used for dwelling purposes only.

4) **No Impact**

No project actions or operations would result in the release of hazardous materials that could affect the public or the environment, and no significant hazard to the public or the environment would result with project implementation.

5) **No Impact**

The project site is located about 4.50 miles northeast from the Merced Regional Airport. The approximate 8.05-acre site is surrounded by existing residential uses, office uses, places of assembly, or open space. Given the land use designation and surrounding land use, the potential impact is less than significant.

6) **No Impact**

The closest private airstrip to the site is approximately 9 miles northeast of the subject site (Flying M Airport). There would be no hazard to people living or working on the project site.

7) **Less-Than-Significant Impact**

The proposed project will not adversely affect any adopted emergency response plan or emergency evacuation plan. No additional impacts would result from the development of the project area over and above `those already evaluated by the EIR prepared for the *Merced Vision 2030 General Plan.*

APPLICABLE GENERAL PLAN GOALS AND POLICIES:
The *Merced Vision 2030 General Plan* contains policies that address disaster preparedness.

Goal Area S-1: Disaster Preparedness	
Goal: General Disaster Preparedness	
Policies	
S-1.1	Develop and maintain emergency preparedness procedures for the City.
Implementing Actions:	
1.1.a	Keep up-to-date through annual review the City's existing Emergency Plan and coordinate with the countywide Emergency Plan.
1.1.b	Prepare route capacity studies and determine evacuation procedures and routes for different types of disasters, including means for notifying residents of a need to evacuate because of a severe hazard as soon as possible.
7.1.d	Provide continuing training for hazardous materials enforcement and response personnel.

8) **Less-Than-Significant Impact**

According to the EIR prepared for the *Merced Vision 2030 General Plan*, the risk for wildland fire within the City of Merced is minimal. According to the Cal Fire website, the Merced County Fire Hazard Severity Zone Map shows the project site is designated as a "Local Responsibility Area" (LRA) with a Hazard Classification of "LRA Unzoned."

The City of Merced Fire Department is the responsible agency for responding to fires at the subject site. The project site is served by Station #55 located at 3520 Parsons Drive (approximately 560 feet southeast from the project site).

The site is not near agricultural land that could be susceptible to wildland fires. Even though there are some surrounding undeveloped lands and agricultural lands, the City of Merced Fire Department has procedures in place to address the issue of wildland fires, so no additional mitigation would be necessary. This potential impact is less than significant.

H. Hydrology and Water Quality

SETTING AND DESCRIPTION

Water Supplies and Facilities

The City's water supply system consists of 22 wells and 14 pumping stations equipped with variable speed pumps that attempt to maintain 45 to 50 psi (pounds per square inch) nominal water pressure. The City is required to meet State Health pressure requirements, which call for a minimum of 20 psi at every service connection under the annual peak hour condition and maintenance of the annual average day demand plus fire flow, whichever is stricter. The project site would be serviced by the utilities located within E Yosemite Ave and Parsons Avenue.

Storm Drainage/Flooding

In accordance with the adopted *City of Merced Standard Designs of Common Engineering Structures*, percolation/detention basins are designed to temporarily collect runoff so that it can be

metered at acceptable rates into canals and streams that have limited capacity. The project would be required to adhere to the Post Construction Standards for compliance with the City's Phase II MS4 permit issued by the state of California.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
H. <u>Hydrology and Water Quality.</u> Would the Project:				
1) Violate any water quality standards or waste discharge requirements?			✓	
2) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			✓	
3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			✓	
a) result in a substantial erosion or siltation on- or off-site;			✓	
b) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			✓	
c) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; orPles			✓	
d) impede or redirect flood flows?			✓	
4) In flood hazard, tsunami, or seiche zones, risk of pollutants due to project inundation?			✓	
5) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			✓	

1) **Less-Than-Significant Impact**

The Project is not expected to violate any water quality standards or waste discharge requirements during construction or operation. In addition to compliance with standard construction provisions, the Project shall be required to comply with the Merced Storm Water Master Plan and the Storm Water Management Plan, and obtain all required permits for water discharge. During project operations, the City has developed requirements to minimize the impact to storm water quality caused by development and redevelopment.

The increase in impervious areas caused by development can cause an increase in the type and quantity of pollutants in storm water runoff. Prior planning and design to minimize pollutants in runoff from these areas is an important component to storm water quality management. These standards are set forth in the City's Post-Construction Standards Plan and provide guidance for post-construction design measures to ensure that storm water quality is maintained. Compliance with these requirements and permits would reduce the impact to a less than significant level.

APPLICABLE GENERAL PLAN GOALS AND POLICIES:
The *Merced Vision 2030 General Plan* contains policies that address Water Quality and Storm Drainage.

Goal Area P-5: Storm Drainage and Flood Control	
Goal: An Adequate Storm Drainage Collection and Disposal System in Merced	
Policies	
P-5.1	Provide effective storm drainage facilities for future development.
P-5.2	Integrate drainage facilities with bike paths, sidewalks, recreation facilities, agricultural activities, groundwater recharge, and landscaping.

Implementing Actions:	
5.1.a	Continue to implement the City's Storm Water Master Plan and the Storm Water Management Plan and its control measures.
5.1.c	Continue to require all development to comply with the Storm Water Master Plan and any subsequent updates.

2) **Less-Than-Significant Impact**

The City of Merced is primarily dependent on groundwater sources that draw from the San Joaquin aquifer. The City has 22 active well sites with one under construction, and 14 pumping stations, which provide service to meet peak hour urban level conditions and the average daily demand plus fire flows.

According to the City of Merced Water Master Plan, the estimated average peak water demand is 23.1 mgd.

The proposed project is estimated to use approximately 27,846 gallons of water per day (residential and office for site). This would represent 0.12% of the estimated average daily water consumption. Although development of the site would restrict onsite recharge where new impervious surface areas are created, all alterations to groundwater flow would be captured and routed to the storm water percolation ponds or pervious surfaces with no substantial net loss in recharge potential anticipated. This reduces this impact to a less-than-significant level.

3) **Less-Than-Significant Impact**

The proposed project would result in modifications to the existing drainage pattern on the site. If required by the City's Engineering Department, the project will be designed to

capture all surface water runoff onsite and then drain into the City's existing storm drainage system.

The project site is currently vacant and consists of pervious surfaces. The proposed project would create impervious surfaces over a large portion of the project site, thereby preventing precipitation from infiltrating and causing it to pond or runoff. However, stormwater flows would be contained onsite and piped or conveyed to the City's stormwater system, there would be no potential for increased erosion or sedimentation.

Developed storm drainage facilities in the area are adequate to handle this minor increase in flows. The Project would not result in a substantial alteration of drainage in the area, and no offsite uses would be affected by the proposed changes. All potential impacts are less than significant.

4) **Less-Than-Significant Impact**

The proposed project is located approximately 80 miles from the Pacific Ocean, distant from any large lakes. The proposedis near but not within the inundation zones for Lake Yosemite or Bear Reservoir and is at an elevation ranging from approximately 177 feet above Mean Sea Level(MSL). According to the City's General Plan Safety Element, the City of Merced is not subject to inundation by tsunami, seiche, or mudflow. This potential impact is less than significant.

5) **Less-Than-Significant Impact**

The proposed project would not obstruct or conflict with the implementation of a water quality control plan or sustainable groundwater management plan. The project would be required to comply with all City of Merced standards and Master Plan requirements for groundwater and water quality control. This impact is less than significant.

I. Land Use and Planning

SETTING AND DESCRIPTION

The project site is located within the City Limits of Merced and within its Specific Urban Development Plan and Sphere of Influence (SUDP/SOI).

SURROUNDING USES

Refer to Page 2 of this Initial Study and the map at Attachment A for the surrounding land uses.

Current Use

The project site is approximately 8.05 acres of undeveloped land located at the southwest corner of E Yosemite Avenue and Parsons Avenue.

The project site currently has a Zoning classification of Residential Planned Development (RP-D), and a General Plan designation of Commercial Office (CO). The existing land use for this site allows for commercial/business office activities including real estate agencies, insurance agencies, financial institutions on a relatively small scale. The proposed land use amendment would transition the site with revised planned development standards to allow for a self-storage facility along with a single-family residential subdivision. This would be achieved with revision #3 to Planned Development (P-D) #20 (along with Site Plan Review Permit #551), and the proposed

General Plan designation of Business Park (BP) and High Medium Density (HMD) with a Minor Use Permit would be for interface review to allow commercial development adjacent to or across from a Low Density Residential (R-1-6) Zone. Along with a vesting tentative subdivision map that would divide the lot proposed for the self-storage facility from the residential lots, and to create the 41 single-family residential lots.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. <u>Land Use and Planning.</u> Would the Project:				
1) Physically divide an established community?				✓
2) 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?			✓	

1) **No Impact**

The project site is within the boundaries of the Merced City Limits. As it is essentially an infill site it would not physically divide the community as it is already part of the City. This proposal does not include the creation of streets or barriers. No Impact.

2) **Less-Than-Significant Impact**

The project site currently has a Zoning classification of Residential Planned Development (RP-D), and a General Plan designation of Commercial Office (CO). The existing land use for this site allows for commercial/business office activities including real estate agencies, insurance agencies, financial institutions on a relatively small scale. The proposed land use amendment would transition the site with revised planned development standards to allow for a self-storage facility along with a single-family residential subdivision. This would be achieved with revision #3 to Planned Development (P-D) #20 (along with Site Plan Review Permit #551), and the proposed General Plan designation of Business Park (BP) and High Medium Density (HMD) with a Minor Use Permit would be for interface review to allow commercial development adjacent to or across from a Low Density Residential (R-1-6) Zone. Along with a vesting tentative subdivision map that would divide the lot proposed for the self-storage facility from the residential lots, and to create the 41 single-family residential lots.

Business Park (BP) is similar to a hybrid of light industrial and office commercial. The land use proposed for the 2.72 acres for self-storage would have a lesser impact than the current designation of Commercial Office (CO). The subject site is surrounded by medical offices, a church and residential.

High Medium Residential (HMD) provides areas for higher density residential development that help transition from heavier uses like commercial into lower density residential. The proposed 4.48 located to the south of the project site would have Business

Park (BP) use adjacent to the north and Low Density Residential (LD) adjacent to the south. Therefore, the proposed project would not conflict with any land use plan or policy this impact is less than significant.

J. Mineral Resources

SETTING AND DESCRIPTION

The City of Merced does not contain any mineral resources that require managed production according to the State Mining and Geology Board. Based on observed site conditions and review of geological maps for the area, economic deposits of precious or base metals are not expected to underlie the City of Merced or the project site. According to the California Geological Survey, Aggregate Availability in California - Map Sheet 52, minor aggregate production occurs west and north of the City of Merced, but economic deposits of aggregate minerals are not mined within the immediate vicinity of the SUDP/SOI. Commercial deposits of oil and gas are not known to occur within the SUDP/SOI or immediate vicinity.

According to the Merced County General Plan Background Report (June 21, 2007), very few traditional hard rock mines exist in the County. The County's mineral resources are almost all sand and gravel mining operations. Approximately 38 square miles of Merced County, in 10 aggregate resource areas (ARA), have been classified by the California Division of Mines and Geology for aggregate. The 10 identified resource areas contain an estimated 1.18 billion tons of concrete resources with approximately 574 million tons in Western Merced County and approximately 605 million tons in Eastern Merced County. Based on available production data and population projections, the Division of Mines and Geology estimated that 144 million tons of aggregate would be needed to satisfy the projected demand for construction aggregate in the County through the year 2049. The available supply of aggregate in Merced County substantially exceeds the current and projected demand.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
J. <u>Mineral Resources.</u> Would the Project:				
1) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
2) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				✓

1) **No Impact**

   No mineral resources occur within City Limits, SUDP/SOI, or within the project site, so no impact.

2) **No Impact**

   See #1 above.

K. Noise

SETTING AND DESCRIPTION

Potential noise impacts of the proposed project can be categorized as those resulting from construction and those from operational activities. Construction noise would have a short-term effect; operational noise would continue throughout the lifetime of the project. Construction associated with the development of the project would increase noise levels temporarily during construction. Operational noise associated with the development would occur intermittently with the continued operation of the proposed project.

Some land uses are considered more sensitive to noise levels than other uses. Sensitive land uses can include residences, schools, nursing homes, hospitals, and some public facilities, such as libraries. The noise level experienced at the receptor depends on the distance between the source and the receptor, the presence or absence of noise barriers and other shielding devices, and the amount of noise attenuation (lessening) provided by the intervening terrain. For line sources such as motor or vehicular traffic, noise decreases by about 3.0 to 4.5A –weighted decibels (dBA) for every doubling of the distance from the roadway.

Noise from Other Existing Sources

Vehicular noise from E Yosemite Avenue and nearby uses such as Shepherd of the Valley Lutheran Church, and University Surgery Center would be the primary existing noise source at the project site. The nearest railroad corridor is approximately 2.2 miles south from the project site. The site is surrounded by various uses that generate operational noise on a daily basis. There are several commercial uses located 0.3 miles west of the project site.

According to the *Merced Vision 2030 General Plan,* noise exposure not exceeding 45 dB is considered to be a "normally acceptable" noise level for residential uses.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
K. <u>Noise.</u> Would the Project result in:				
1) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✓	
2) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			✓	

3) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			✓	

1) **Less Than Significant**

Construction Noise

Construction of the Project would temporarily increase noise levels in the area during the construction period. Therefore, the noise from construction may be steady for a few months and then cease all together. Construction activities, including site preparation and grading, building construction, and sidewalk and street improvements would be considered an intermittent noise impact throughout the construction period. These activities could result in various effects on sensitive receptors, depending on the presence of intervening barriers or other insulating materials. The Inspection Services Division currently addresses noise levels for construction equipment on a case-by-case basis and limit operating hours for noisy construction equipment used in the City of Merced. The effects of construction of the proposed project will be short term and would result in a less than significant impact.

Operational Noise

Operational noise would be the main noise source expected from the proposed project. Traffic coming to and from the project site would generate the most noise. However, the site is surrounded by other residential uses, which are generally expected to generate similar amount of noise as the proposed development. Implementation of the Project would not lead to continued offsite effects related to noise generated by the Project. Given the noise from similar low impact zones near the subject site, this potential impact is less than significant.

2) **Less-Than-Significant Impact**

The proposed project would be exposed to existing noise generation in the city including but not limited to, highways, railroads, traffic and airport noise that exist in the City. The implementation itself of the proposed would not result in the generation of any ground borne vibration or noise. This is a less-than-significant impact.

3) **Less-Than-Significant Impact**

The project site is located approximately 4 miles northeast from active areas of the Merced Regional Airport and approximately 7 miles east from the Castle Airport. Therefore, no population working or living at the site would be exposed to excessive levels of aircraft noise. This potential impact is less than significant.

L. Population and Housing

SETTING AND DESCRIPTION

The proposed would change the General Plan designation from Commercial Office (CO) to Business Park (BP) for approximately 2.72 acres and High Medium Density (HMD) residential for approximately 4.48 acres.

The existing land use designations for this site does not allow for residential uses such as single-family homes, duplexes or high-density residential uses which include the former and multi-family residential. The proposed land use amendment would transition the southern 4.48 acres of the proposed site into 41 lots designated High Medium Density (HMD) Residential. The existing planned development standards would be revised to allow the uses and residential density currently allowed under the High Medium Density (HMD) Residential. However, the Planned Development would allow the developer to propose unique development standards throughout the site, for the 41 lots located within the southern portion of the subject site.

Expected Population and Employment Growth

According to the State Department of Finance population estimates for 2023, the City of Merced's population was estimated to be 91,837. Population projections estimate that the Merced SUDP area will have a significant population of 159,900 by the Year 2030.

According to the *Merced Vision 2030 General Plan*, the City of Merced is expected to experience significant population and employment growth by the Year 2030.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
L. <u>Population and Housing.</u> Would the Project:				
1) Induce substantial unplanned population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
2) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓

1) **Less-Than-Significant Impact**

The proposed residential subdivision at the southern portion of the project site would allow for a density of 12-24 units/acre. The growth expected with this project would not exceed the project growth of the City General Plan. The project also proposes a private road for

residents to access Parsons Ave, a City maintained road. Based on the need to increase housing supply, this potential impact would be less than significate.

2) **No Impact**

There project site is vacant. No housing would be displaced as a result of this project. There is no impact.

M. Public Services

SETTING AND DESCRIPTION

Fire Protection

The City of Merced Fire Department provides fire protection, rescue, and emergency medical services from five fire stations throughout the urban area. Fire Station #55 is located at 3520 Parsons Drive approximately 560 feet southeast from the project site. This Station would serve the proposed project.

Police Protection

The City of Merced Police Department provides police protection for the entire City. The Police Department employs a mixture of sworn officers, non-sworn officer positions (clerical, etc.), and unpaid volunteers (VIP). The service standard used for planning future police facilities is approximately 1.37 sworn officers per 1,000 population, per the Public Facilities Financing Plan.

Schools

The public school system in Merced is served by three districts: 1) Merced City School District (elementary and middle schools); 2) Merced Union High School District (MUHSD); and, 3) Weaver Union School District (serving a small area in the southeastern part of the City with elementary schools). The districts include various elementary schools, middle (junior high) schools, and high schools.

As the City grows, new schools will need to be built to serve our growing population. According to the Development Fee Justification Study for the MUHSD, Merced City Schools students are generated by new development at the following rate:

Table 6 Student Generation Rates

Commercial/Industrial Category	Elementary (K-8) (Students per 1,000 sq.ft.)	High School (9-12) (Students per 1,000 sq.ft.)
Retail	0.13	0.038
Restaurants	0.00	0.157
Offices	0.28	0.048
Services	0.06	0.022
Wholesale/Warehouse	0.19	0.016
Industrial	0.30	0.147
Residential	0.559 (per unit)	0.109 (per unit)

Based on the table above the 41 units would generate 23 K-8 students and 4 high school students.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
M. <u>Public Services.</u> Would the Project:				
1) 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 public services:				
a) Fire Protection?			✓	
b) Police Protection?			✓	
c) Schools?			✓	
d) Parks?			✓	
e) Other Public Facilities?			✓	

1) **Less Than Significant**

a) Fire Protection

The project site would be served by Fire Station ##55 located at 3520 Parsons Drive (approximately 560 feet southeast from the project site). The response from this station would meet the desired response time of 4 to 6 minutes, citywide, 90 percent of the time, within the financial constraints of the City. The proposed change in land use designation would not affect fire protection services, and no new or modified fire facilities would be needed. All buildings would be required to meet all requirements of the California Fire Code and the Merced Municipal Code. Compliance with these requirements would reduce any future impacts to a less than significant level.

At the time a building permit is issued, the developer would be required to pay impact fees according to the City Public Facilities Financing Plan (PFFP). A portion of this fee goes to cover the city's costs for fire protection such as fire stations, etc. In addition, the developer would be required to annex into the City's Community Facilities District for Services. This would result in an assessment paid with property taxes in which a portion of the tax would go to pay for fire protection services. Compliance with all Fire, Building, and Municipal Code requirements as well as payment of the Public Facility Impact Fees, and annexation into the City's CFD for services would reduce any potential impacts to a less than significant level.

b) **Police Protection**

The site would be served by the City Police Department. The development of the vacant project site could result in more calls to the site. Implementation of the proposed project would not require any new or modified police facilities.

The same requirements for paying Public Facility Impact Fees and potentially annexation into the City's Community Facilities District for Services would apply with a portion of the fees and taxes collected going toward the costs for police protection. Therefore, this potential impact is reduced to a less-than-significant level.

c) Schools

The project site is located within the boundaries of the Merced City School District and Merced Union High School District. Based on the table and discussion provided in the "Settings and Description" section above, the proposed development would likely generate additional students to the school system. As appropriate, the developer would be required to pay all fees due under the Leroy F. Greene School Facilities Act of 1988. Once these fees are paid, the satisfaction of the developer of his statutory fee under California Government Code §65995 is deemed "full and complete mitigation" of school impacts. This potential impact is less than significant**.**

d) Parks

Bob Carpenter is located approximately 275 feet southeast of the subject site. the proposed residences and storage facility may increase the use of neighborhood or regional parks.

Payment of the fees required under the Public Facilities Financing Plan (PFFP) as described above would be required at time of building permit issuance to help fund future parks and maintenance of existing parks would be required at the building permit stage. The payment of fees would reduce this potential impact to less than significant.

e) Other Public Facilities

The development of the Project could impact the maintenance of public facilities and could generate impacts to other governmental services. Payment of the fees required under the Public Facilities Financing Plan (PFFP) as described above would mitigate these impacts to a less than significant level.

N. Recreation

SETTING AND DESCRIPTION

The City of Merced has a well-developed network of parks and recreation facilities. Several City parks and recreation facilities are located within a one-mile radius of the project site.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
N. <u>Recreation.</u> Would the Project:				
1) Increase the use of neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓	

2) 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?				✓

1) **Less the Significant Impact**

Development of the Project may increase the use of neighborhood or regional parks. However, payment of the required development fees at the building permit stage would reduce the potential impacts to a less than significant level.

2) **No Impact**

The Project does not include recreational facilities and is not responsible for the construction or expansion of any recreational facilities.

O. Transportation/Traffic

SETTING AND DESCRIPTION

Roadway System

The project site is located in northeast Merced, approximately three miles northwest of Downtown and two- and three-quarter miles east of Highway 99. The project site consists of an undeveloped lot of approximately 8.05 acres. The project site fronts E Yosemite Ave to the north which is an arterial road and Parsons Road to the east which is a collector road. The subject site is less than a mile east of G Street which provides access to Highway 99 that connects Merced with other regional communities throughout the State.

Transit Service

The Transit Joint Powers Authority for Merced County has jurisdiction over public transit in Merced County and operates The Bus. The Bus provides transportation for residents traveling within Merced and outside the City within neighboring communities such as Planada, Atwater, and Livingston. Cat Tracks is a bus service for UC Merced students that also serves the City.

Vehicle Miles Traveled

Senate Bill (SB) 743 directs the Governor's Office of Planning and Research (OPR) to develop new guidelines for assessing transportation-related impacts that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" (Public Resources Code Section 21099[b][1]). These new guidelines will replace automobile delay, as described through level of service (LOS), with more appropriate criteria and metrics based on travel demand, such as "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated" (Public Resources Code Section 21099[b][1]). The State CEQA Guidelines were amended to include guidance for measuring travel demand and to recommend that delays related to congestion no longer be considered a significant impact under CEQA (OPR 2016).

Vehicle Miles Traveled Analysis

The self-storage facility project is comprised of land uses estimated to generate 387 vehicle trips per day and the residential portion is estimated to generate 109 vehicle trips per day. For a total of 496 total vehicle trips per day.

Based on the MCAG guidelines, projects that are low trip generators can be screened out of a quantitative VMT Analysis. Projects that are consistent with the *Merced Vision 2030 General Plan* have a low trip generator threshold of 1,000 average daily trips and projects that are not consistent with the *Merced Vision 2030 General Plan* have a low trip generator threshold of 500 average daily trips. This Project is not consistent with the *Merced Vision 2030 General Plan* but generates less than 500 daily trips. As a result, this Project is screened out from a quantitative VMT analysis and this Report serves as the required VMT Analysis for this Project.

For additional information see Appendix B the study on Vehicle Miles Traveled and Level of Service.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
O. <u>Transportation/Traffic.</u> Would the project:				
1) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			✓	
2) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b)?			✓	
3) Substantially increase hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?				✓
4) Result in inadequate emergency access?			✓	

1) **Less-than-Significant Impact**

The existing system of pedestrian and bicycle facilities in this area include sidewalks and Class 1 bike paths on E Yosemite Avenue. Sidewalks are present along the project's E Yosemite and Parsons Avenue frontage. The proposed self-storage and residential subdivision would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

2) **Less-than-Significant Impact**

The project would be constructed as an infill development surrounded by existing adequate infrastructure. The Institute of Transportation Engineers (ITE) presented in the publication Trip Generation Manual, 11th Edition, calculates the project to generate 496 trips on a daily basis, with 36 trips in the a.m. peak hours, and 50 trips in the p.m. peak hours. The project would not result in a change in air traffic patterns, including air traffic associated with any airports.

As previously described in this section, a VMT analysis was prepared for this project by JLB Traffic Engineering INC. Based on guidance provided by MCAG, both the residential and the self-storage facility would be screened out as a low trip generator and not require further VMT analysis. Therefore, this impact is less than significant. Details regarding the criteria provided by MCAG can be found in the traffic analysis at Appendix B.

Per CEQA Guidelines Section 15064.3 alternative modes of transportation are being assessed. The Transit Joint Powers Authority provides transit service through "The Bus." There are several bus stops along E Yosemite Avenue that provide access to Route UC and bus stops less than half a mile east of the project site that provide access to Routes M3 and M4.

The Amtrak (passenger train service) is located within 2 miles providing services to the greater California area and connections to travel across the country. The closest airport is Merced Regional Airport, located approximately 4.5 miles southwest of the project site.

3) **No Impact**

City staff, including Police, Fire, and Engineering staff, reviewed the proposed subdivision layout and did not express any concerns regarding the proposed street network. Therefore, no impact would occur.

3) **Less-than-Significant Impact**

The subject site is an approximate 8.05-acre parcel on mostly developed parcels along an arterial road (E Yosemite Avenue) and a collector road (Parsons Avenue). There is currently no missing infrastructure of roads or utilities between the subject site and City infrastructure. The Fire and Police departments reviewed this proposal and are not requesting additional access points to this site. Therefore, project construction and

operation would not pose a significant obstacle to emergency response vehicles. This impact on emergency access would be less than significant.

SETTING AND DESCRIPTION

P. Water

The City's water system is composed of 22 groundwater production wells located throughout the City, and approximately 350 miles of main lines. Well pump operators ensure reliability and adequate system pressure at all times to satisfy customer demand. Diesel powered generators help maintain uninterrupted operations during power outages. The City of Merced water system delivers more than 24 million gallons of drinking water per day to approximately 20,733 residential, commercial, and industrial customer locations. The City is required to meet State Health pressure requirements, which call for a minimum of 20 psi at every service connection under the annual peak hour condition and maintenance of the annual average daily demand plus fire flow, whichever is stricter. The City of Merced Water Division is operated by the Public Works Department.

The City of Merced's wells have an average depth of 414 feet and range in depth from 161 feet to 800 feet. The depth of these wells would suggest that the City of Merced is primarily drawing water from a deep aquifer associated with the Mehrten geological formation. Increasing urban demand and associated population growth, along with an increased shift by agricultural users from surface water to groundwater and prolonged drought have resulted in declining groundwater levels due to overdraft. This condition was recognized by the City of Merced and the Merced Irrigation District (MID) in 1993, at which time the two entities began a planning process to ensure a safe and reliable water supply for Eastern Merced County through the year 2030. Integrated Regional Water Planning continues today through various efforts.

Wastewater

Wastewater (sanitary sewer) collection and treatment in the Merced urban area is provided by the City of Merced. The wastewater collection system handles wastewater generated by residential, commercial, and industrial uses in the City.

The City Wastewater Treatment Plant (WWTP), located in the southwest part of the City about two miles south of the airport, has been periodically expanded and upgraded to meet the needs of the City's growing population and new industry. The City's wastewater treatment facility has a capacity of 11.5 million gallons per day (mgd); with an average flow of 8.5 mgd. The City has recently completed an expansion project to increase capacity to 12 mgd and upgrade to tertiary treatment with the addition of filtration and ultraviolet disinfection. Future improvements would add another 8 mgd in capacity (in increments of 4 mgd), for a total of 20 mgd. This design capacity can support a population of approximately 174,000. The collection system will also need to be expanded as development occurs.

Treated effluent is disposed of in several ways depending on the time of year. Most of the treated effluent (75% average) is discharged to Hartley Slough throughout the year. The remaining treated effluent is delivered to a land application area and the on-site City-owned wetland area south of the treatment plant.

Storm Drainage

The *Draft City of Merced Storm Drainage Master Plan* addresses the collection and disposal of surface water runoff in the City's SUDP. The study addresses both the collection and disposal of storm water. Systems of storm drain pipes and catch basins are laid out, sized, and costed in the plan to serve present and projected urban land uses.

It is the responsibility of the developer to ensure that utilities, including storm water and drainage facilities, are installed in compliance with City regulations and other applicable regulations. Necessary arrangements with the utility companies or other agencies will be made for such installation, according to the specifications of the governing agency and the City [(Ord. 1342 § 2 (part), 1980: prior code § 25.21(f)).] The disposal system is mainly composed of MID facilities, including water distribution canals and laterals, drains, and natural channels that traverse the area.

The City of Merced has been involved in developing a Storm Water Management Plan (SWMP) to fulfill requirements of storm water discharges from Small Municipal Separate Storm Sewer System (MS4) operators in accordance with Section 402(p) of the Federal Clean Water Act (CWA). The SWMP was developed to also comply with General Permit Number CAS000004, Water Quality Order No. 2003-0005-DWQ.

Solid Waste

The City of Merced is served by the State Route 59 Landfill and the State Route 59 Compost Facility, located at 6040 North Highway 59. The County of Merced is the contracting agency for landfill operations and maintenance, as the facilities are owned by the Merced County Association of Governments. The City of Merced provides services for all refuse pick-up within the City limits and franchise hauling companies collect in the unincorporated areas. In addition to these two landfill sites, there is one private disposal facility, the Flintkote County Disposal Site, at State Route 59 and the Merced River. This site is restricted to concrete and earth material.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
P. Utilities and Service Systems. Would the Project:				
1) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			✓	
2) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			✓	

3) 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?			✓	
4) 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?			✓	
5) Comply with federal, state, and local statutes and regulations related to solid waste?			✓	

1) Less Than Significant Impact

The City's current water and wastewater system is capable of handling this project within the City of Merced. There are existing sewer and water lines along E Yosemite Ave and Parsons Ave, which would be extended to go through the project site. No significant environmental impacts would result from connecting to the line. This potential impact is less than significant.

2) **Less Than Significant Impact**

No new water facilities are needed for this project. The existing water system is sufficient to serve the development. Potential impacts are less than significant.

3) **Less Than Significant Impact**

Refer to item 1 above.

4) **Less Than Significant Impact**

The City of Merced uses the State Route 59 Landfill. Sufficient capacity is available to serve the future project. According to the *Merced Vision 2030 General Plan* DEIR, the landfill has capacity to serve the City through 2030. Potential impacts are less than significant.

5) **Less Than Significant Impact**

All construction on the site would be required to comply with all local, state, and federal regulations regarding solid waste, including recycling. Potential impacts are less than significant.

Q. Tribal Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Q. <u>Tribal Cultural Resources</u> Would the project:				
1) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or				✓
i. 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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				✓

Impact Analysis

1) **No Impact**

As stated in the Cultural Resources Section of this Initial Study, improvements associated with the project include site excavation, grading, paving, and construction of buildings. The areas of the project subject to demolition and construction facilities are likely to have been subject to ground disturbance in the past. No tribal resources are known to have occurred or have been identified at the project site or in the vicinity of the project site. However, as noted in the Cultural Resources Section, implementation of Mitigation Measures CUL-1 and CUL-3 would protect previously unrecorded or unknown cultural resources, including Native American artifacts and human remains, should these be encountered during project construction.

In addition, Assembly Bill (AB) 52 provides for consultation between lead agencies and Native American tribal organizations during the CEQA process. Since AB 52 was enacted in July 2015, the City has not been contacted by any California Native American tribes requesting that they be notified when projects are proposed in Merced. No tribes have

requested consultation pursuant to Public Resources Code section 21080.3.1. Therefore, it is assumed that no Tribal Cultural Resources would be adversely affected by the project. As a result, no impact would occur.

R. Wildfire

SETTING AND DESCRIPTION

Both urban and wildland fire hazard potential exist in the City of Merced and surrounding areas, creating the potential for injury, loss of life, and property damage. Urban fires primarily involve the uncontrolled burning of residential, commercial, or industrial structures due to human activities. Wildland fires affect grassland, brush or woodlands, and any structures on or near these fires. Such fires can result from either human made or natural causes.

Urban fires comprise the majority of fires in the City of Merced. The site is surrounded by urban uses. The City of Merced Fire Department has procedures in place to address the issue of wildland fires, so no additional mitigation would be necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
R. **Wildfire.** If located in or near stat responsibility areas or lands classified as very high fire hazard severity zones, would 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?			✓	
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?				✓

Impact Analysis

1) Less Than Significant Impact

The storage project does not include the construction of new roadways or changes to existing roads. All new roads installed for the residential portion of this project are require to comply with applicable MMC standards. The project would also be required to comply with all applicable requirements of the California Fire Code. As such, the project would not impact an adopted emergency response plan or emergency evacuation plan. This impact would be less than significant.

2) Less Than Significant Impact

According to the California Department of Forestry and Fire Protection, the project site is not located in any fire hazard zone. The areas surrounding the project site are mostly developed, urban land.

There is a low potential for wildland fires within these parameters. Additionally, the California Building Code and the California Fire Codes work together to regulate building construction and related items such as the care of vacant lots and the storage of flammable liquids.

To provide effective fire prevention activities for low hazard occupancies, the Fire Department conducts seasonal hazard removal programs (primarily weed abatement). The City of Merced employs a weed abatement program, which requires property owners to eliminate flammable vegetation and rubbish from their properties. Each property within the City is surveyed each spring and notices are sent to the property owners whose properties have been identified to pose a fire risk. Since inception of this program in 1992, grass or brush related fires within the City have been greatly reduced. A "bulky item" drop off station has been opened near Highway 59 and Yosemite Avenue. Further, staging areas, building areas, and/or areas slated for development using spark-producing equipment are cleared of dried vegetation or other materials that could serve as fuel for combustion; impacts are considered less than significant.

3) Less Than Significant Impact

The project would be required to repair/replace any missing or damaged infrastructure along their property frontage. However, the on-going maintenance of roadways would fall to the City. All other infrastructure or utilities exist in the area. No additional infra-structure or on-going maintenance would be required that would cause an impact to the environment. This impact is less than significant.

4) No Impact

The project site and surrounding area is relatively flat with no risk of downslope or downstream flooding or landslides. Therefore, there is no impact.

S. Greenhouse Gas Emissions

SETTING AND DESCRIPTION

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters the atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. Infrared radiation is absorbed by GHGs; as a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead trapped, resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on Earth.

GHGs are present in the atmosphere naturally, are released by natural sources and anthropogenic sources, and are formed from secondary reactions taking place in the atmosphere. The following GHGs are widely accepted as the principal contributors to human-induced global climate change and are relevant to the project: carbon dioxide (CO_2), methane, and nitrous oxide.

Emissions of CO_2 are byproducts of fossil fuel combustion. Methane is the main component of natural gas and is associated with agricultural practices and landfills. Nitrous oxide is a colorless GHG that results from industrial processes, vehicle emissions, and agricultural practices.

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO_2. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time the gas remains in the atmosphere (i.e., its atmospheric lifetime). The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of 1. The other main GHGs that have been attributed to human activity include methane, which has a GWP of 28, and nitrous oxide, which has a GWP of 265 (IPCC 2013). For example, 1 ton of methane has the same contribution to the greenhouse effect as approximately 28 tons of CO_2. GHGs with lower emissions rates than CO_2 may still contribute to climate change, because they are more effective than CO_2 at absorbing outgoing infrared radiation (i.e., they have high GWPs). The concept of CO_2-equivalents (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
S. <u>Greenhouse Gas Emissions.</u> Would the project:				
1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

1) **Less -than-Significant Impact**

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is responsible for protecting public health and welfare through the administration of federal and state air quality laws and policies. In December 2009, SJVAPCD adopted the *Final Staff Report Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act* (SJVAPCD 2009). SJVAPCD also developed guidance for land-use agencies to address GHG emission impacts for new development projects. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would have a less-than-significant individual and cumulative impact related to GHG emissions. Projects implementing best performance standards and reducing project-specific GHG emissions by at least 29 percent compared to the business-as-usual condition would have a less-than-significant individual and cumulative impact on global climate change under this guidance. However, models used to estimate GHG emissions now include some of the statewide measures that previously would have been used to evaluate this 29 percent reduction performance standard, so this particular method of comparison is out of date.

To establish the context in which to consider the project's GHG emissions, this analysis used guidance from the adjacent Sacramento Metropolitan Air Quality Management District (SMAQMD) to determine significance. In 2014, SMAQMD adopted a significance threshold for GHG emissions consistent with the goals of Assembly Bill (AB) 32: 1,100 metric tons (MT) CO_2e per year for construction-related and operational emissions (SMAQMD 2014). This significance threshold was developed to assess the consistency of a project's emissions with the statewide framework for reducing GHG emissions.

The impacts associated with GHG emissions generated by the project are related to the emissions from short-term construction and operations. Off-road equipment, materials transport, and worker commutes during construction of the project would generate GHG

emissions. Emissions generated by the project during operations are related to indirect GHG emissions associated with residential uses.

GHG emissions associated with construction of the project are short-term and will cease following completion of construction activity. Therefore, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. This impact would be less than significant with mitigation.

2) **Less-than-Significant Impact**

In 2006, California enacted AB 32, the California Global Warming Solutions Act of 2006 (California Health and Safety Code Section 38500 et seq.). AB 32 establishes regulatory, reporting, and market mechanisms to achieve reductions in GHG emissions and establishes a cap on statewide GHG emissions. It requires that statewide GHG emissions be reduced to 1990 levels by 2020.

In 2008 and 2014, the California Air Resources Board (ARB) approved the Climate Change Scoping Plan (Scoping Plan) and the first update to the Climate Change Scoping Plan: Building on the Framework, respectively (ARB 2008; ARB 2014). In 2016, the state legislature passed Senate Bill SB 32, which established a 2030 GHG emissions reduction target of 40 percent below 1990 levels. In response to SB 32 and the companion legislation of AB 197, ARB approved the Final Proposed 2017 Scoping Plan Update: The Strategy for Achieving California's 2030 GHG Target in November 2017 (ARB 2017). The 2017 Scoping Plan draws from the previous plans to present strategies to reaching California's 2030 GHG reduction target. The project would comply with any mandate or standards set forth by an adopted Scoping Plan Update effecting construction activities and operations.

In 2012, the City of Merced adopted the *Merced Climate Action Plan* to address the reduction of major sources of GHG emissions. The climate action plan established an emissions target of 1990 levels by 2020, commensurate with the State of California's target (City of Merced 2012). To meet this goal, the City adopted values, goals, and strategies to reduce emissions. Goals of the plan include:

- enhanced mobility of all transportation modes;
- sustainable community design;
- water conservation and technology;
- protection of air resources;
- waste reduction;
- increased use of renewable energy sources;
- building energy conservation; and,
- public outreach and involvement.

The project would be consistent with the goals of the *Merced Climate Action Plan*.

As mentioned above, the project would not exceed emissions thresholds adopted by SMAQMD and would be consistent with the applicable requirements of the *Merced Climate Action Plan*. Therefore, the project would not conflict with any applicable plans,

policies, or regulations adopted for the purpose of reducing GHG emissions. This impact would be less than significant. This impact would be less than significant.

T. Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
T. <u>Mandatory Findings of Significance.</u> Would the Project:				
1) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				✓
2) 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 probably future projects?)			✓	
3) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			✓	

1) **No Impact**

As previously discussed in this document, the project site does not provide habitat for fish or wildlife, as the project site is an urban infill site and does not have the potential to adversely affect biological resources or cultural resources, because such resources are lacking on the project site. Thus, there would be no impact.

2) **Less-Than-Significant Impact**

The Program Environmental Impact Report conducted for the *Merced Vision 2030 General Plan, the General Plan Program EIR* (SCH# 2008071069), has recognized that future development and build-out of the SUDP/SOI will result in cumulative and unavoidable impacts in the areas of Air Quality and Loss of Agricultural Soils. In conjunction with this

conclusion, the City has adopted a Statement of Overriding Considerations for these impacts (Resolution #2011-63) which is herein incorporated by reference.

The certified General Plan EIR addressed and analyzed cumulative impacts resulting from changing agricultural use to urban uses. No new or unaddressed cumulative impacts will result from the project that have not previously been considered by the certified General Plan EIR or by the Statement of Overriding Considerations, or mitigated by this Expanded Initial Study. This Initial Study does not disclose any new and/or feasible mitigation measures which would lessen the unavoidable and significant cumulative impacts.

The analysis of impacts associated with the development would contribute to the cumulative air quality and agricultural impacts identified in the General Plan EIR. In the case of air quality, emissions from the proposed project would be less than significant. The nature and extent of these impacts, however, falls within the parameters of impacts previously analyzed in the General Plan EIR. No individual or cumulative impacts will be created by the Project that have not previously been considered at the program level by the General Plan EIR or mitigated by this Initial Study.

3) **Less-Than-Significant Impact**

Development anticipated by the *Merced Vision 2030 General Plan* will have significant adverse effects on human beings. These include the incremental degradation of air quality in the San Joaquin Basin, the loss of unique farmland, the incremental increase in traffic, and the increased demand on natural resources, public services, and facilities. However, consistent with the provisions of CEQA previously identified, the analysis of the proposed project is limited to those impacts which are peculiar to the project site or which were not previously identified as significant effects in the prior EIR. The previously-certified General Plan EIR and the Statement of Overriding Considerations addressed those cumulative impacts; hence, there is no requirement to address them again as part of this project.

This previous EIR concluded that these significant adverse impacts are accounted for in the mitigation measures incorporated into the General Plan EIR. In addition, a Statement of Overriding Considerations was adopted by City Council Resolution #2011-63 that indicates that the significant impacts associated with development are offset by the benefits that will be realized in providing necessary jobs and homes for residents of the City. The analysis and mitigation of impacts have been detailed in the Environmental Impact Report prepared for the *Merced Vision 2030 General Plan*, which is incorporated into this document by reference.

While this issue was addressed and resolved with the General Plan EIR in an abundance of caution, in order to fulfill CEQA's mandate to fully disclose potential environmental consequences of projects, this analysis is considered herein. However, as a full disclosure document, this issue is repeated in abbreviated form for purposes of disclosure, even though it was resolved as a part of the General Plan.

Potential impacts associated with the Project's development have been described in this Initial Study. All impacts were determined to be less than significant.

4. ENVIRONMENTAL DETERMINATION

On the basis of this initial environmental evaluation:

X I find that the project would not have a significant effect on the environment, and that a NEGATIVE DECLARATION HAS BEEN PREPARED for public review.

February 26, 2025

Valeria Renteria, Associate Planner

Diana M. Lowrance, M.U.P.
Deputy Director, Development Services
City of Merced

5. PREPARERS OF THE INITIAL STUDY

LEAD AGENCY

City of Merced
Planning & Permitting Division
678 West 18th Street
Merced, CA 95340
(209) 385-6929
Valeria Renteria, Associate Planner

ATTACHMENTS:

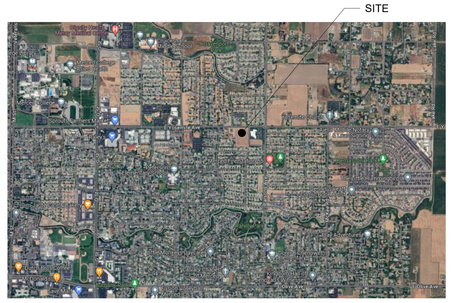
A) Location Map
B) Site Plan / Floor Plans / Elevations
C) Appendix A – Combined Studies for Air Quality, Green House Gas Emissions
D) Appendix B – Vehicle Miles Traveled and Level of Services Study


Partridge Drive
Dove Court
Single -Family Residences
White Dove Avenue
Church
Pointer Court
Swan Court
Single-Family Residences
South Gardner
East Yosemite Avenue
Single -Family Residences
Medical offices
Pebble Beach Plac
North Dome Court
Poppy Hills Court
Ahwahnee Drive
Ahwahnee Court
Single -Family Residences
Presidio Court
Billie Court
Silhouette Court
Parsons Avenue
Bob
Carpenter
Park

MERCED SELF STORAGE

1380 E YOSEMITE
MERCED, CA
ISSUED
MAY 21, 2024

SHEET INDEX



VICINITY MAP
N.T.S.
TRUE NORTH

LOCATION MAP
N.T.S.
TRUE NORTH

LEGAL DESCRIPTION

TAX LOT NO: APN 006-050-086-000
ZONING: RESIDENTIAL PLANNED DEVELOPMENT (RP-D)
GENERAL PLAN: COMMERCIAL OFFICE (CO)
LEGAL: PARCEL 2, AS SHOWN ON "PARCEL MAP FOR WAINWRIGHT TRUSTS", RECORDED JANUARY 26, 2001 IN VOLUME 87 OF PARCEL MAPS, P. 45 AND 4

SEPARATE SUBMITTALS

PROJECT DESCRIPTION

SELF STORAGE MINI-WAREHOUSES WITH RETAIL SALES COUNTER IN PRIMARY BUILDING, WITH SIX TOTAL STRUCTURES.

DELEGATED DESIGN

THE GENERAL CONTRACTOR SHALL SCHEDULE A FIRESTOPPING MEETING WITH THE BUILDING INSPECTOR AND ALL SUBCONTRACTORS THAT WILL BE INSTALLING FIRESTOPPING MATERIALS. EACH SUBCONTRACTOR WILL PROVIDE A LIST OF FIRESTOP MATERIALS / ASSEMBLIES WHICH WILL BE USED, AND THE LISTING AND APPROVAL INFORMATION (I.E. ICC OR OTHER APPROVED REPORT / /LISTING NUMBERS). THIS INFORMATION MUST BE SUBMITTED TO AND APPROVED BY THE BUILDING INSPECTOR PRIOR TO ANY INSTALLATION.

OWNER

THE CIRRUS COMPANY
YOSEMITE 1380, LLC
755 E YOSEMITE SUITE J, MERCED, CA 95340
PHONE: (209) 480-0585
EMAIL: eric@cirruscompany.com
CONTACT: Eric Gonsalves

ARCHITECT

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311 1ST AVE. S.
SEATTLE WA 98104
PHONE: (206) 324-4800
EMAIL: steve.schmitz@jacksonmain.com
CONTACT: Steve Schmitz
ARCHITECT: Robin Murphy

CIVIL ENGINEER

?
?
?
PHONE: ?
EMAIL: ?
CONTACT: ?

STRUCTURAL ENGINEER

?
?
?
PHONE: ?
EMAIL: ?
CONTACT: ?

MECHANICAL ENGINEER

?
?
?
PHONE: ?
EMAIL: ?
CONTACT: ?

PLUMBING ENGINEER

?
?
?
PHONE: ?
EMAIL: ?
CONTACT: ?

ELECTRICAL ENGINEER

?
?
?
PHONE: ?
EMAIL: ?
CONTACT: ?

CONSULTANT

?
?
?
PHONE: ?
EMAIL: ?
CONTACT: ?

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PROGRESS SET
NOT FOR CONSTRUCTION

THE CIRRUS COMPANY
YOSEMITE 1380, LLC
755 E YOSEMITE SUITE J
MERCED, CA 95340

YOSEMITE - MERCED SS
1380 E YOSEMITE
MERCED, CA

DATE	NO.	DESCRIPTION

PROJECT NO.: 23104
PROJECT MGR.: DSG
DRAWN BY: DRW
CHECKED BY: AOR

COVER SHEET

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YOSEMITE & PARSONS

MERCED | CALIFORNIA

THE CIRRUS COMPANY | 24-048

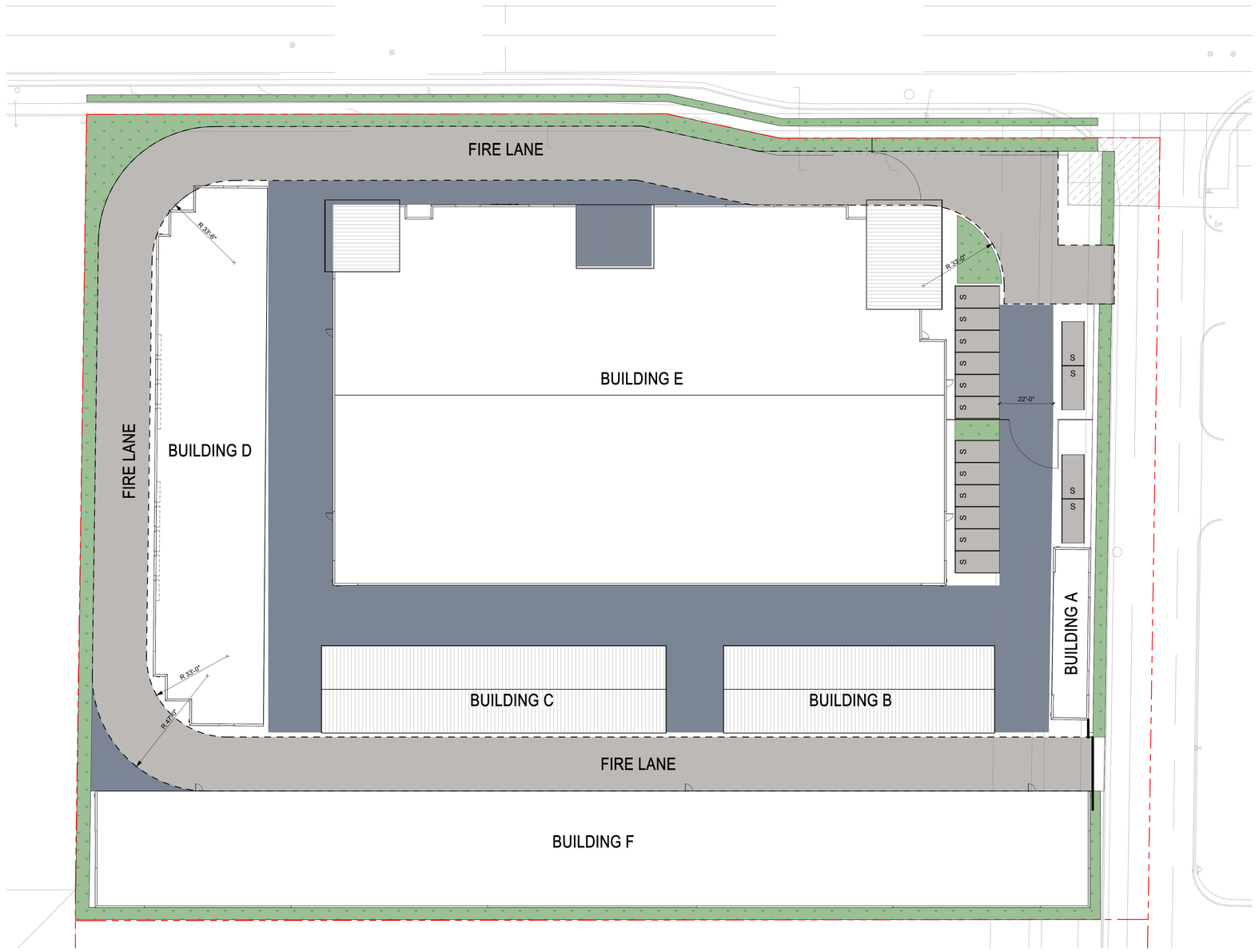
DATE 04 | 30 | 24

1"=40'-0" SCALE NORTH

0 40 80

SITE PLAN | SP 1

URBAN ARENA



1 SITE PLAN
1" = 20'-0"

TRUE NORTH PROJECT NORTH

SHEET NOTES:

A. LIMITS OF WORK ARE DEFINED WITHIN THE PROPERTY LINES AND ADJACENT RIGHT OF WAYS.
B. SITE CONTROLS ARE EXISTING PROPERTY CORNERS AS IDENTIFIED BY PROPERTY SURVEY.
C. REFER TO LANDSCAPE DRAWINGS FOR ADDITIONAL INFORMATION ON ALL LANDSCAPE FEATURES AND ELEMENTS.
D. REFER TO CIVIL DRAWINGS FOR SITE GRADING AND UTILITY LOCATIONS.
E. EXPANSION JOINTS ARE SHOWN ON SITE PLANS, ALL OTHER LINES WITHIN CONCRETE PAVING AREAS ARE TO BE CONTROL JOINTS UNLESS OTHERWISE NOTED, REFER TO CIVIL DRAWINGS.
F. SIDEWALKS TO MAINTAIN A SLOPE NO GREATER THAN 1:20 IN THE PRIMARY DIRECTION OF TRAVEL AND A SLOPE NO GREATER THAN 1:50 PERPENDICULAR TO THE PRIMARY DIRECTION OF TRAVEL REFER TO CIVIL DRAWINGS.
G. CURB TO BE MEDIUM BROOM FINISH, PARALLEL TO GUTTER LINE, UNLESS OTHERWISE NOTED.
H. GRIDLINES CORRESPOND WITH BUILDING FLOOR PLAN GRIDLINES.
I. REFER TO ELECTRICAL DRAWINGS FOR SITE LIGHTING.
J. ARCHITECT SITE PLAN IS SHOWN FOR REFERENCE ONLY. REFER TO CIVIL AND LANDSCAPE DRAWINGS FOR PARAMETERS OF SITE INCLUDING ROADWORK, LANDSCAPING AND CONTEXTUAL SITE INFORMATION.
K. REFER TO CIVIL FOR FINISH FLOOR ELEVATIONS (FFE) - THESE CORRESPOND TO ARCHITECTURAL 0'-0"

KEYNOTES:

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SITE PLAN

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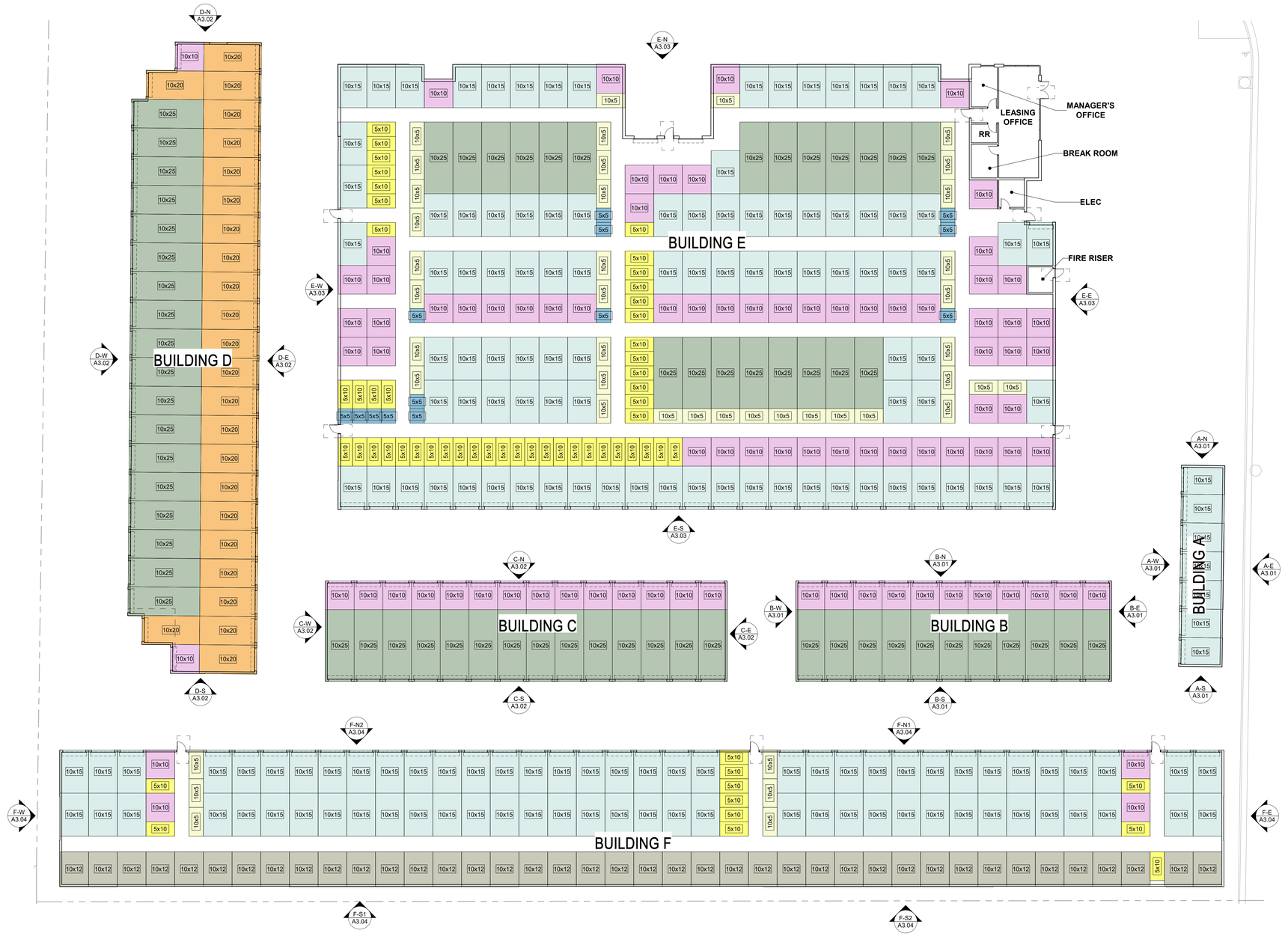

1 OVERALL UNIT PLAN - LEVEL 01

1/16" = 1'-0"

UNIT MIX

Unit Type Schedule

Type	Count
LEVEL 01	
10x25	64
10x20	24
10x15	172
10x12	40
10x10	87
10x5	42
5x10	58
5x5	13

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DRAWN BY: Author
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OVERALL UNIT PLAN - LEVEL 01

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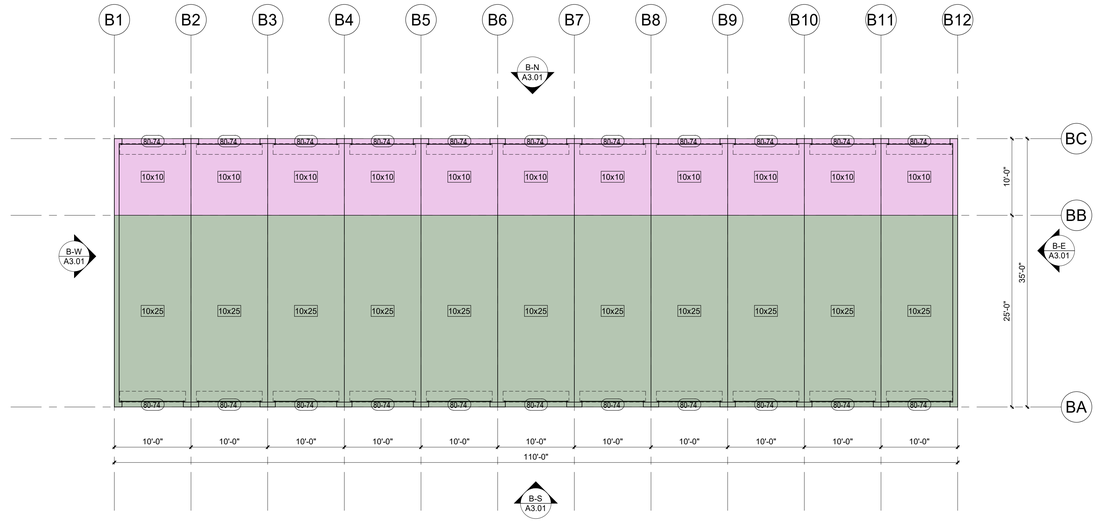
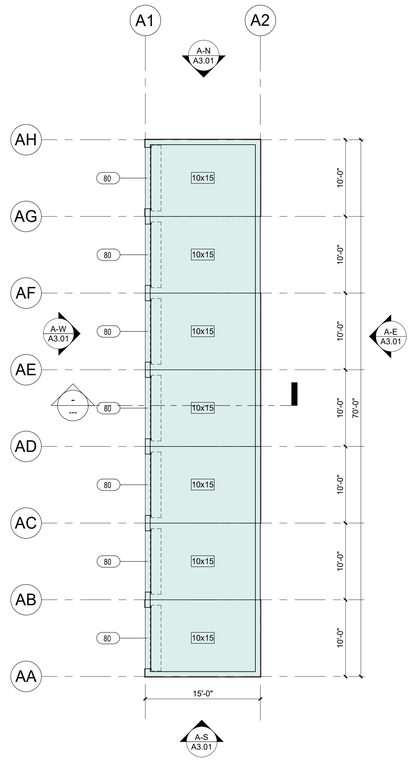
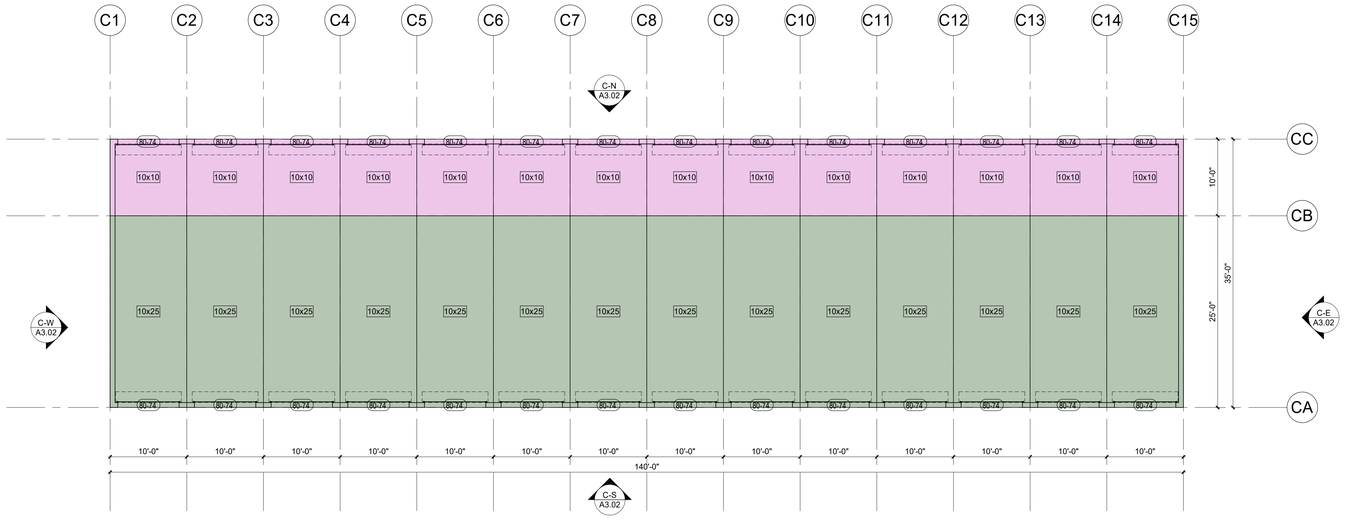


2 FLOOR PLAN - BUILDING B, LEVEL 01
1/8" = 1'-0"



1 FLOOR PLAN - BUILDING A, LEVEL 01
1/8" = 1'-0"



3 FLOOR PLAN - BUILDING C, LEVEL 01
1/8" = 1'-0"

SHEET NOTES:

A. REFER TO G0.01 FOR ABBREVIATIONS, SYMBOLS AND GENERAL PROJECT NOTES.
B. REFER TO G SERIES SHEETS FOR CODE & ACCESSIBILITY STANDARDS.
C. REFER TO A8 SERIES FOR SPECIFIC WALL ASSEMBLY INFORMATION
D. REFER TO DOOR AND WINDOW MANUFACTURER SPECIFICATIONS FOR ACTUAL ROUGH OPENING SIZES.
E. REFER TO STRUCTURAL DRAWINGS FOR SHEAR WALL, HOLD DOWN LOCATIONS, AND BEAM SIZES.
F. PROVIDE WALL GUARDS AT ALL EXPOSED GYPSUM BOARD OUTSIDE CORNERS IN PUBLIC AREAS.
G. FOR FRAMED WALLS- LOCATE HINGE SIDE OF ALL DOORS 4-1/2" FROM PERPENDICULAR FRAMING U.N.O.
H. FOR MASONRY WALLS- LOCATE HINGE SIDE OF DOOR 8" FROM PERPENDICULAR WALL U.N.O.
I. GENERAL NOTES ON THIS PAGE DO NOT EXCLUDE NOTES ELSEWHERE; THIS DOCUMENT SET IS COMPLEMENTARY. NOTES ON OTHER SHEETS MAY HAVE BEARING/ APPLICATION TO WORK SHOWN ON THIS SHEET

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1380 E YOSEMITE
MERCED, CA

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FLOOR PLAN - BUILDINGS A, B, & C

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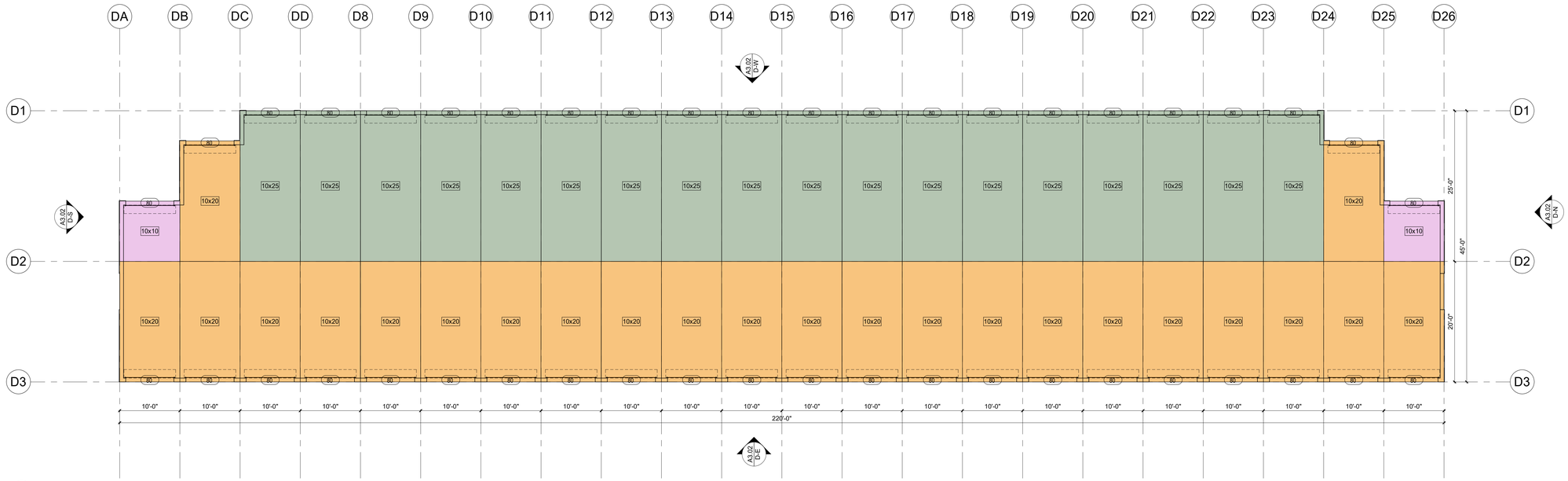

1 FLOOR PLAN - BUILDING D, LEVEL 01
1/8" = 1'-0"

SHEET NOTES:

A. REFER TO G0.01 FOR ABBREVIATIONS, SYMBOLS AND GENERAL PROJECT NOTES.
B. REFER TO G SERIES SHEETS FOR CODE & ACCESSIBILITY STANDARDS.
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MERCED, CA

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PROJECT NO.: 23104
PROJECT MGR.: DSG
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FLOOR PLAN - BUILDING D

A2.02

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1 FLOOR PLAN - BUILDING E, LEVEL 01

1/8" = 1'-0"

SHEET NOTES:

A. REFER TO G0.01 FOR ABBREVIATIONS, SYMBOLS AND GENERAL PROJECT NOTES.
B. REFER TO G SERIES SHEETS FOR CODE & ACCESSIBILITY STANDARDS.
C. REFER TO A8 SERIES FOR SPECIFIC WALL ASSEMBLY INFORMATION
D. REFER TO DOOR AND WINDOW MANUFACTURER SPECIFICATIONS FOR ACTUAL ROUGH OPENING SIZES.
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FLOOR PLAN - BUILDING E

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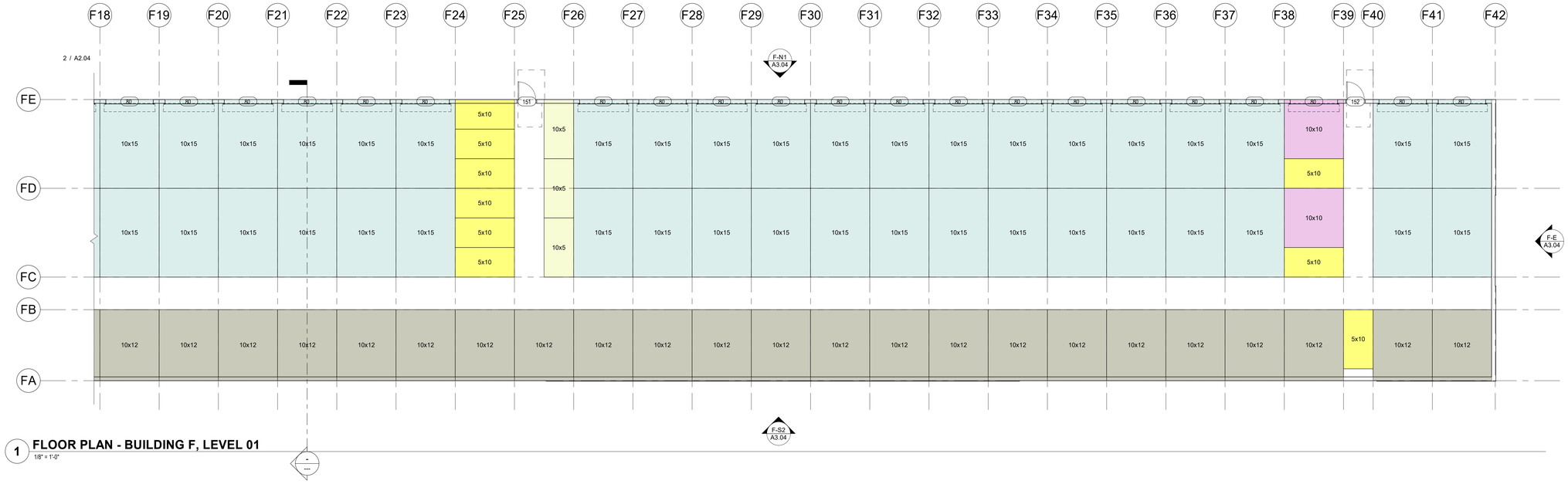

1 FLOOR PLAN - BUILDING F, LEVEL 01
1/8" = 1'-0"

2 FLOOR PLAN - BUILDING F, LEVEL 01 (CONTINUED)
1/8" = 1'-0"

SHEET NOTES:

A. REFER TO G0.01 FOR ABBREVIATIONS, SYMBOLS AND GENERAL PROJECT NOTES.
B. REFER TO G SERIES SHEETS FOR CODE & ACCESSIBILITY STANDARDS.
C. REFER TO A8 SERIES FOR SPECIFIC WALL ASSEMBLY INFORMATION.
D. REFER TO DOOR AND WINDOW MANUFACTURER SPECIFICATIONS FOR ACTUAL ROUGH OPENING SIZES.
E. REFER TO STRUCTURAL DRAWINGS FOR SHEAR WALL, HOLD DOWN LOCATIONS, AND BEAM SIZES.
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1380 E YOSEMITE
MERCED, CA

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CHECKED BY:	Checker

FLOOR PLAN - BUILDING F

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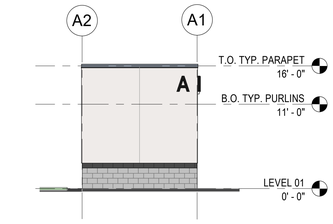
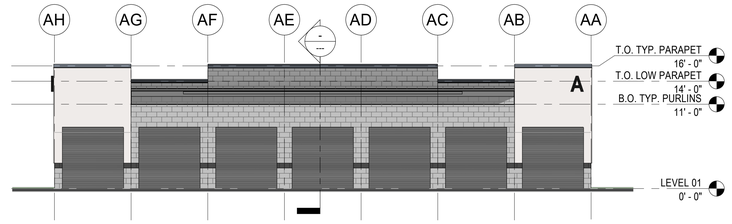
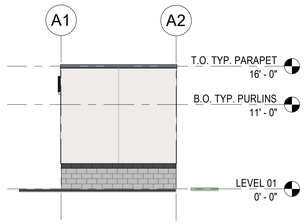


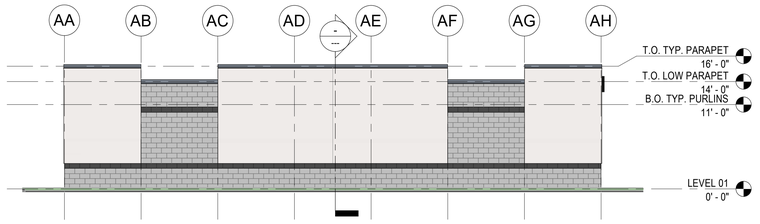
A-N BUILDING A - NORTH ELEV.
1/8" = 1'-0"



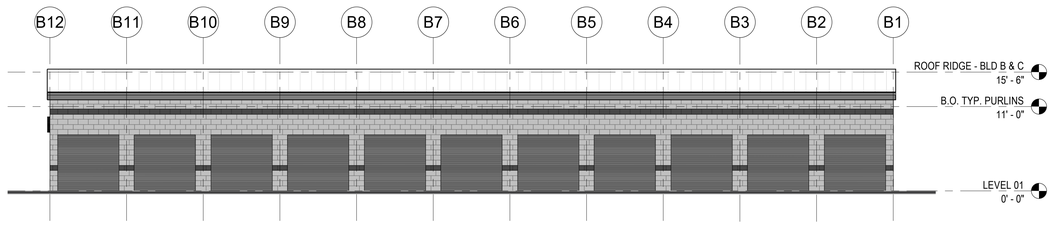
A-W BUILDING A - WEST ELEVATION
1/8" = 1'-0"



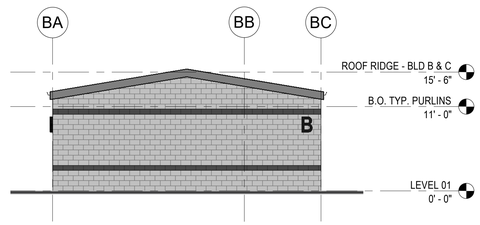
A-S BUILDING A - SOUTH ELEV.
1/8" = 1'-0"



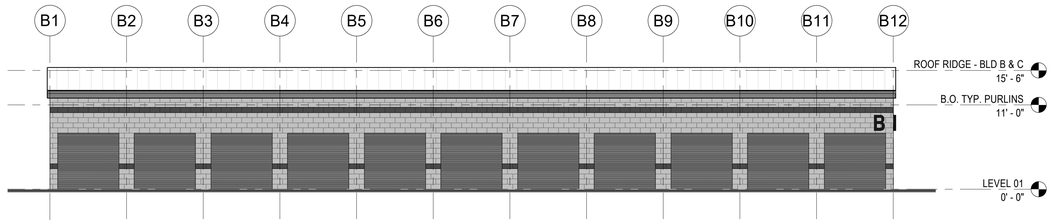
A-E BUILDING A - EAST ELEVATION
1/8" = 1'-0"



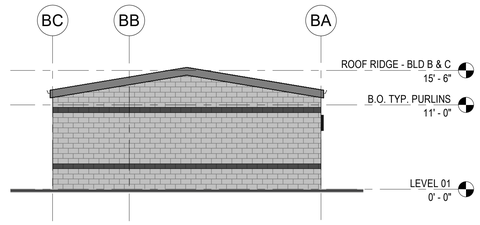
B-N BUILDING B - NORTH ELEVATION
1/8" = 1'-0"



B-E BUILDING B - EAST ELEVATION
1/8" = 1'-0"



B-S BUILDING B - SOUTH ELEVATION
1/8" = 1'-0"



B-W BUILDING B - WEST ELEVATION
1/8" = 1'-0"

SHEET NOTES:

A. REFER TO G0.01 FOR ABBREVIATIONS, SYMBOLS AND GENERAL PROJECT NOTES.
B. LOCATIONS OF DOORS AND WALLS PER PLAN. REFER TO SCHEDULES FOR ADDITIONAL INFORMATION.
C. COORDINATE ALL CONTROL JOINT LOCATIONS WITH ARCHITECT PRIOR TO INSTALL.
D. GALVANIZE EXPOSED EXTERIOR STEEL MEMBERS, SIZE PER STRUCTURAL TOUCH-UP WELD BURNS WITH GALVANIZING PAINT PRIOR TO APPLYING FINISH.
E. PROVIDE CONTINUOUS SUBSILLS WITH END DAMS, WELDED JOINTS AT ALL ALUMINUM FRAMING SYSTEMS.
F. AT JOINTS BETWEEN DISSIMILAR MATERIALS, PROVIDE CONTINUOUS MINIMUM 3/8" BACKER ROD AND SEALANT.
G. SUBMIT ALL EXTERIOR MATERIAL SAMPLES IN SINGLE SUBMITTAL. MATERIALS SUBMITTED SEPARATELY SHALL BE REJECTED.
H. MAINTAIN CODE REQUIRED SEPARATION BETWEEN ALL EXHAUST DISCHARGES AND OPERABLE OPENINGS OR PROPERTY LINE.
I. MAINTAIN CODE REQUIRED SEPARATION BETWEEN ALL EXHAUST DISCHARGES AND MECHANICAL INTAKES.
J. ALL EXTERIOR FINISHES SHALL TERMINATE AT AN INTERIOR CORNER U.N.O.
K. COORDINATE WITH ARCHITECT, CONSULTANTS AS NECESSARY LOCATION AND HEIGHTS OF EXTERIOR LOUVERS, HORNS, LIGHT FIXTURES, FIRE ALARM DEVICES PRIOR TO INSTALL.
L. COORDINATE WITH MANUFACTURER ALL VERTICAL AND HORIZONTAL FIBER CEMENT PANELS JOINTS OR BATTENS PER EXTERIOR ELEVATIONS.
M. EXTERIOR SOFFITS FINISH IS TO MATCH FASCIA U.N.O.
N. DAMPPROOFING TO BE TROWELED-ON U.N.O. IN SPECIFICATIONS.
O. EXPOSED CONCRETE WALL, COLUMNS, AND BEAMS FINISH CARBORUNDUM-RUBBED AND PAINTED, COLOR SELECTED BY ARCHITECT.
P. WITHIN MASONRY WALLS:
   1. EXTEND STEEL LINTELS MINIMUM 8" PAST EACH SIDE OF OPENING. PAINT ALL EXPOSED SURFACES BLACK
   2. PROJECT ROWLOCK/ SOLDIER BRICK ACCENT BANDS 5/8" FROM ADJACENT FINISH FACE OF FACADE.
   3. MASONRY WEEP HOLES AT 24" O.C., TYP . U.N.O. PER SPECIFICATIONS.
Q. GENERAL NOTES LISTED ON THIS PAGE ARE NOT INTENDED TO BE AT THE EXCLUSION OF NOTES LISTED ELSEWHERE; THIS DOCUMENT SET IS MEANT TO BE COMPLEMENTARY, AND NOTES LISTED ON OTHER SHEETS MAY HAVE BEARING/APPLICATION TO WORK SHOWN ON THIS SHEET.

MATERIAL LEGEND:

#	X	#	X

PRODUCT — MANUFACTURER
COLOR — PROFILE

[#] PRODUCT:
1. CONCRETE MASONRY UNIT
2. STUCCO
3. METAL SIDING
4. METAL TRIM (COPING, FASCIA, ETC)
5. SIGN

[X] COLOR:
A. NATURAL
B. TBD - ACCENT BAND
C. CREAM
D. TBD - BRANDING COLOR
E. LIGHT GRAY
F. DARK GRAY

[#] PROFILE/FINISH:
1. GROUND FACE CMU
2. SPLIT FACE CMU
3. RIBBED METAL PANEL
4. FLAT, LARGE FORMAT PANEL
5. FINE TEXTURE [STUCCO, FINAL TBD]

[X] MANUFACTURER:
A. TBD (MASONRY)
B. TBD (METAL SIDING)
C. TBD (OTHER)

NOTE: ALL COLORS INDICATED ARE SUBJECT TO CHANGE

KEYNOTES:

#	NOTE

JACKSON | MAIN
ARCHITECTURE
311 FIRST AVENUE SOUTH
SEATTLE, WA 98104
t.206.324.4800
WWW.JACKSONMAIN.COM

PROGRESS SET
NOT FOR CONSTRUCTION

THE CIRRUS COMPANY

YOSEMITE 1380, LLC
755 E YOSEMITE SUITE J
MERCED, CA 95340

YOSEMITE - MERCED SS

1380 E YOSEMITE
MERCED, CA

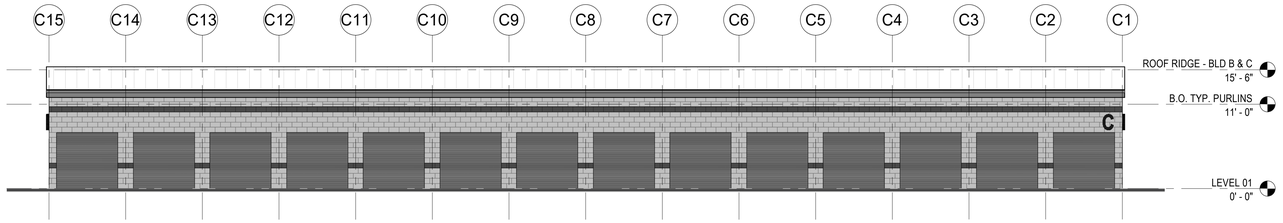
DATE	NO.	DESCRIPTION

PROJECT NO.: 23104
PROJECT MGR.: DSG
DRAWN BY: DRW
CHECKED BY: AOR

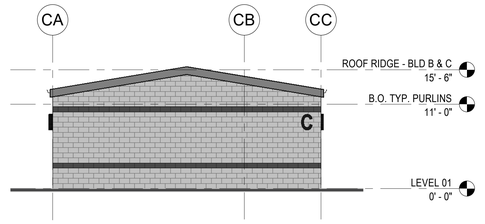
EXTERIOR ELEVATIONS
(BUILDINGS A & B)

A3.01

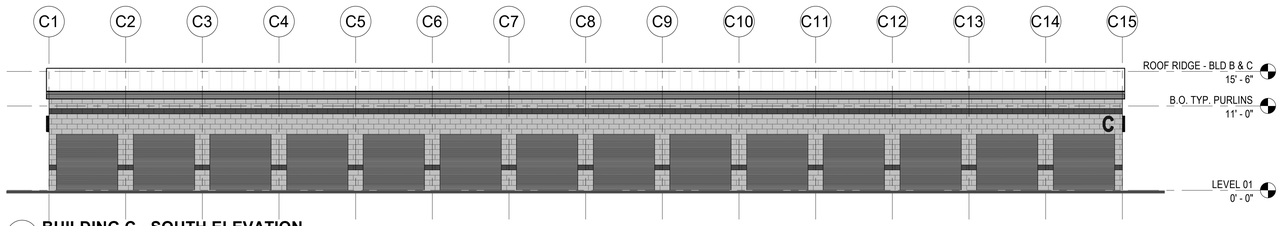
5/21/2024 10:44:11 AM



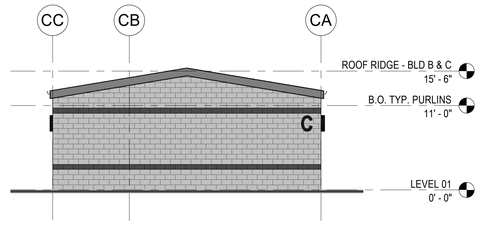
C-N BUILDING C - NORTH ELEVATION
1/8" = 1'-0"



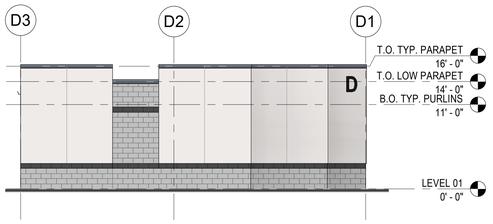
C-E BUILDING C - EAST ELEVATION
1/8" = 1'-0"



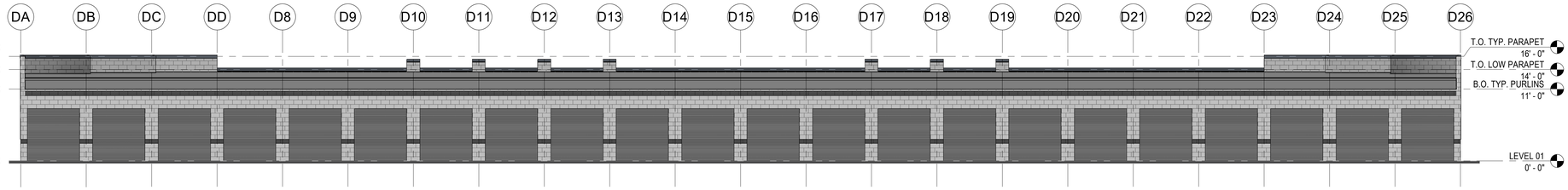
C-S BUILDING C - SOUTH ELEVATION
1/8" = 1'-0"



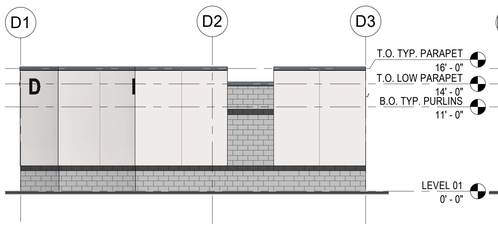
C-W BUILDING C - WEST ELEVATION
1/8" = 1'-0"



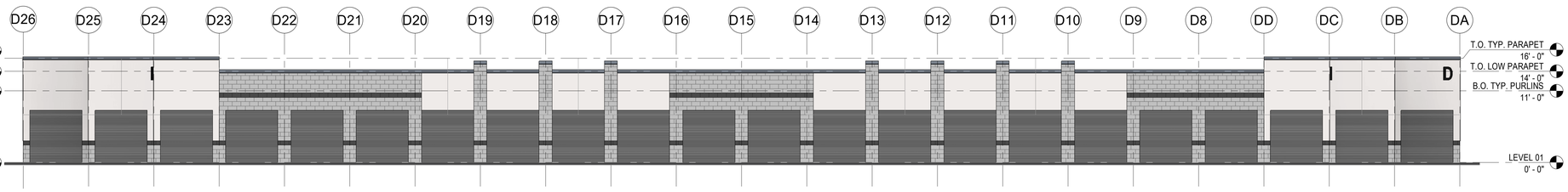
D-N BUILDING D - NORTH ELEVATION
1/8" = 1'-0"



D-E BUILDING D - EAST ELEVATION
1/8" = 1'-0"



D-S BUILDING D - SOUTH ELEVATION
1/8" = 1'-0"



D-W BUILDING D - WEST ELEVATION
1/8" = 1'-0"

SHEET NOTES:

A. REFER TO G0.01 FOR ABBREVIATIONS, SYMBOLS AND GENERAL PROJECT NOTES.
B. LOCATIONS OF DOORS AND WALLS PER PLAN. REFER TO SCHEDULES FOR ADDITIONAL INFORMATION.
C. COORDINATE ALL CONTROL JOINT LOCATIONS WITH ARCHITECT PRIOR TO INSTALL.
D. GALVANIZE EXPOSED EXTERIOR STEEL MEMBERS, SIZE PER STRUCTURAL TOUCH-UP WELD BURNS WITH GALVANIZING PAINT PRIOR TO APPLYING FINISH.
E. PROVIDE CONTINUOUS SUBSILLS WITH END DAMS, WELDED JOINTS AT ALL ALUMINUM FRAMING SYSTEMS.
F. AT JOINTS BETWEEN DISSIMILAR MATERIALS, PROVIDE CONTINUOUS MINIMUM 3/8" BACKER ROD AND SEALANT.
G. SUBMIT ALL EXTERIOR MATERIAL SAMPLES IN SINGLE SUBMITTAL. MATERIALS SUBMITTED SEPARATELY SHALL BE REJECTED.
H. MAINTAIN CODE REQUIRED SEPARATION BETWEEN ALL EXHAUST DISCHARGES AND OPERABLE OPENINGS OR PROPERTY LINE.
I. MAINTAIN CODE REQUIRED SEPARATION BETWEEN ALL EXHAUST DISCHARGES AND MECHANICAL INTAKES.
J. ALL EXTERIOR FINISHES SHALL TERMINATE AT AN INTERIOR CORNER U.N.O.
K. COORDINATE WITH ARCHITECT, CONSULTANTS AS NECESSARY LOCATION AND HEIGHTS OF EXTERIOR LOUVERS, HORNS, LIGHT FIXTURES, FIRE ALARM DEVICES PRIOR TO INSTALL.
L. COORDINATE WITH MANUFACTURER ALL VERTICAL AND HORIZONTAL FIBER CEMENT PANELS JOINTS OR BATTENS PER EXTERIOR ELEVATIONS.
M. EXTERIOR SOFFITS FINISH IS TO MATCH FASCIA U.N.O.
N. DAMPPROOFING TO BE TROWELED-ON U.N.O. IN SPECIFICATIONS.
O. EXPOSED CONCRETE WALL, COLUMNS, AND BEAMS FINISH CARBORUNDUM-RUBBED AND PAINTED, COLOR SELECTED BY ARCHITECT.
P. WITHIN MASONRY WALLS:
   1. EXTEND STEEL LINTELS MINIMUM 8" PAST EACH SIDE OF OPENING. PAINT ALL EXPOSED SURFACES BLACK
   2. PROJECT ROWLOCK/ SOLDIER BRICK ACCENT BANDS 5/8" FROM ADJACENT FINISH FACE OF FACADE.
   3. MASONRY WEEP HOLES AT 24" O.C., TYP. U.N.O. PER SPECIFICATIONS.
Q. GENERAL NOTES LISTED ON THIS PAGE ARE NOT INTENDED TO BE AT THE EXCLUSION OF NOTES LISTED ELSEWHERE; THIS DOCUMENT SET IS MEANT TO BE COMPLEMENTARY, AND NOTES LISTED ON OTHER SHEETS MAY HAVE BEARING/APPLICATION TO WORK SHOWN ON THIS SHEET.

MATERIAL LEGEND:

#	X	#	X

PRODUCT — MANUFACTURER
COLOR — PROFILE

[#] PRODUCT:
1. CONCRETE MASONRY UNIT
2. STUCCO
3. METAL SIDING
4. METAL TRIM (COPING, FASCIA, ETC)
5. SIGN

[#] PROFILE/FINISH:
1. GROUND FACE CMU
2. SPLIT FACE CMU
3. RIBBED METAL PANEL
4. FLAT, LARGE FORMAT PANEL
5. FINE TEXTURE [STUCCO, FINAL TBD]

[X] COLOR:
A. NATURAL
B. TBD - ACCENT BAND
C. CREAM
D. TBD - BRANDING COLOR
E. LIGHT GRAY
F. DARK GRAY

[X] MANUFACTURER:
A. TBD (MASONRY)
B. TBD (METAL SIDING)
C. TBD (OTHER)

NOTE: ALL COLORS INDICATED ARE SUBJECT TO CHANGE

KEYNOTES:

#	NOTE

JACKSON | MAIN
ARCHITECTURE
311 FIRST AVENUE SOUTH
SEATTLE, WA 98104
t 206.324.4800
WWW.JACKSONMAIN.COM

PROGRESS SET
NOT FOR CONSTRUCTION

THE CIRRUS COMPANY
YOSEMITE 1380, LLC
755 E YOSEMITE SUITE J
MERCED, CA 95340

YOSEMITE - MERCED SS
1380 E YOSEMITE
MERCED, CA

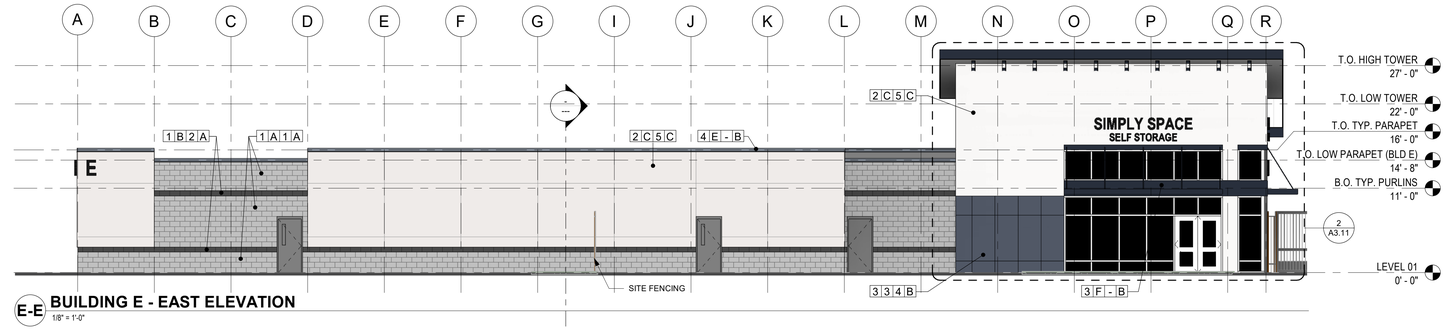
DATE	NO.	DESCRIPTION

PROJECT NO.:	23104
PROJECT MGR.:	Designer
DRAWN BY:	Author
CHECKED BY:	Checker

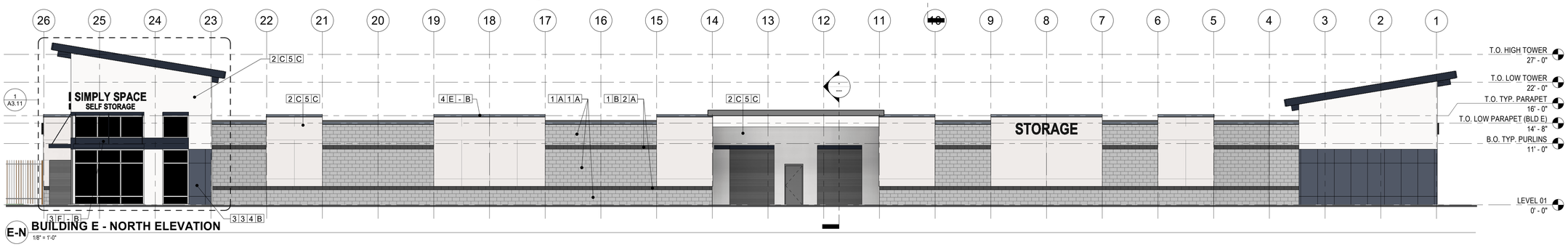
EXTERIOR ELEVATIONS
(BUILDINGS C & D)

A3.02

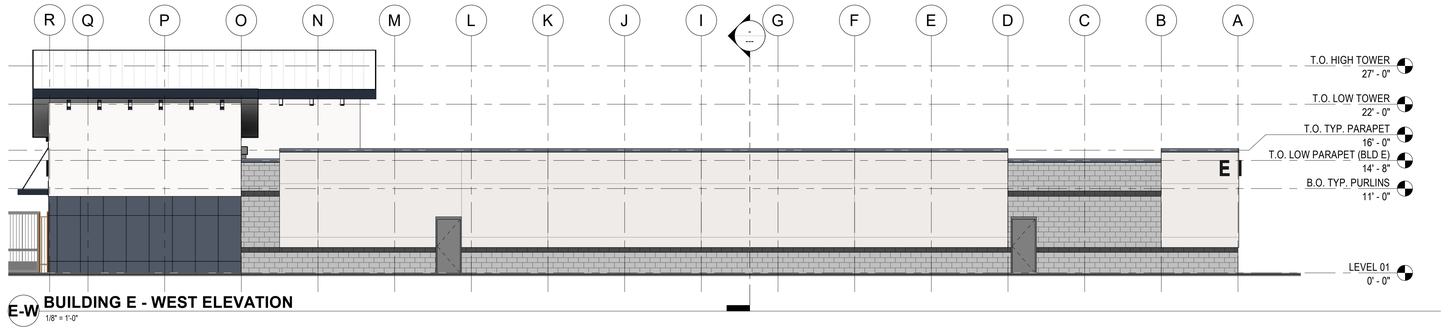
5/21/2024 10:44:15 AM



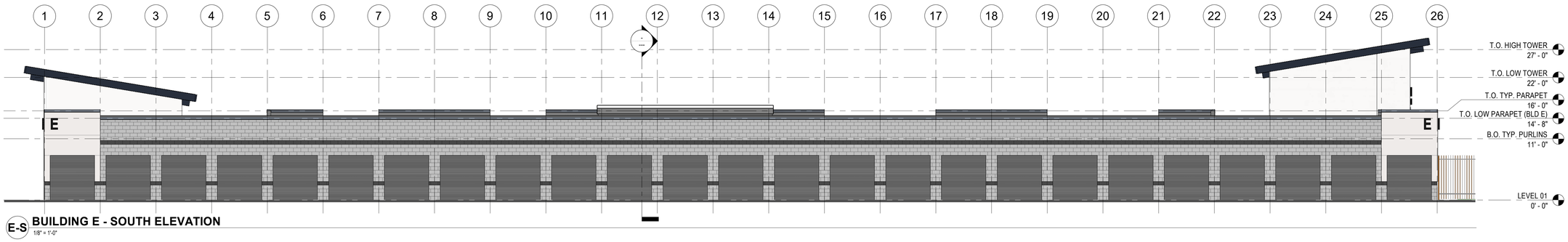
E-E BUILDING E - EAST ELEVATION
1/8" = 1'-0"



E-N BUILDING E - NORTH ELEVATION
1/8" = 1'-0"



E-W BUILDING E - WEST ELEVATION
1/8" = 1'-0"



E-S BUILDING E - SOUTH ELEVATION
1/8" = 1'-0"

SHEET NOTES:

A. REFER TO G0.01 FOR ABBREVIATIONS, SYMBOLS AND GENERAL PROJECT NOTES.
B. LOCATIONS OF DOORS AND WALLS PER PLAN. REFER TO SCHEDULES FOR ADDITIONAL INFORMATION.
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E. PROVIDE CONTINUOUS SUBSILLS WITH END DAMS, WELDED JOINTS AT ALL ALUMINUM FRAMING SYSTEMS.
F. AT JOINTS BETWEEN DISSIMILAR MATERIALS, PROVIDE CONTINUOUS MINIMUM 3/8" BACKER ROD AND SEALANT.
G. SUBMIT ALL EXTERIOR MATERIAL SAMPLES IN SINGLE SUBMITTAL. MATERIALS SUBMITTED SEPARATELY SHALL BE REJECTED.
H. MAINTAIN CODE REQUIRED SEPARATION BETWEEN ALL EXHAUST DISCHARGES AND OPERABLE OPENINGS OR PROPERTY LINE.
I. MAINTAIN CODE REQUIRED SEPARATION BETWEEN ALL EXHAUST DISCHARGES AND MECHANICAL INTAKES.
J. ALL EXTERIOR FINISHES SHALL TERMINATE AT AN INTERIOR CORNER U.N.O.
K. COORDINATE WITH ARCHITECT, CONSULTANTS AS NECESSARY LOCATION AND HEIGHTS OF EXTERIOR LOUVERS, HORNS, LIGHT FIXTURES, FIRE ALARM DEVICES PRIOR TO INSTALL.
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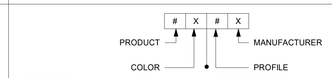
MATERIAL LEGEND:



[#] PRODUCT:
1. CONCRETE MASONRY UNIT
2. STUCCO
3. METAL SIDING
4. METAL TRIM (COPING, FASCIA, ETC)
5. SIGN

[#] PROFILE/FINISH:
1. GROUND FACE CMU
2. SPLIT FACE CMU
3. RIBBED METAL PANEL
4. FLAT, LARGE FORMAT PANEL
5. FINE TEXTURE [STUCCO, FINAL TBD]

[X] COLOR:
A. NATURAL
B. TBD - ACCENT BAND
C. CREAM
D. TBD - BRANDING COLOR
E. LIGHT GRAY
F. DARK GRAY

[X] MANUFACTURER:
A. TBD (MASONRY)
B. TBD (METAL SIDING)
C. TBD (OTHER)

NOTE: ALL COLORS INDICATED ARE SUBJECT TO CHANGE

KEYNOTES:

#	NOTE

JACKSON | MAIN
ARCHITECTURE
311 FIRST AVENUE SOUTH
SEATTLE, WA 98104
t.206.324.4800
WWW.JACKSONMAIN.COM

PROGRESS SET
NOT FOR CONSTRUCTION

THE CIRRUS COMPANY
YOSEMITE 1380, LLC
755 E YOSEMITE SUITE J
MERCED, CA 95340

YOSEMITE - MERCED SS
1380 E YOSEMITE
MERCED, CA

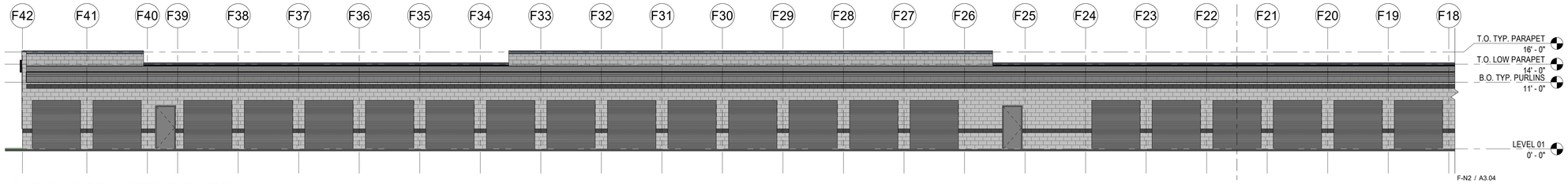
DATE	NO.	DESCRIPTION

PROJECT NO.:	23104
PROJECT MGR.:	DSG
DRAWN BY:	DRW
CHECKED BY:	AOR

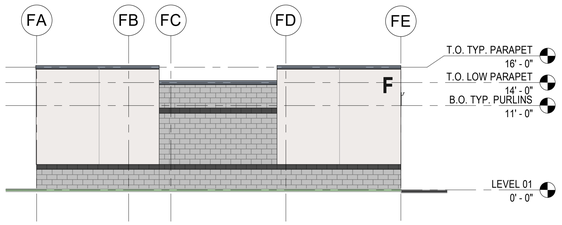
EXTERIOR ELEVATIONS (BUILDING E)

A3.03

5/21/2024 10:44:18 AM

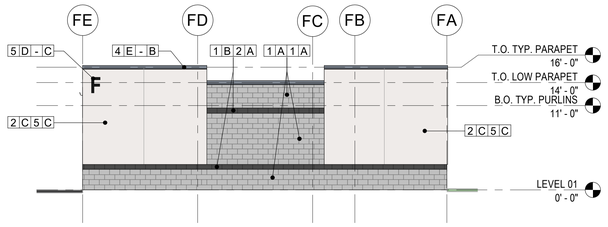


F-N1 BUILDING F - NORTH ELEVATION
1/8" = 1'-0"

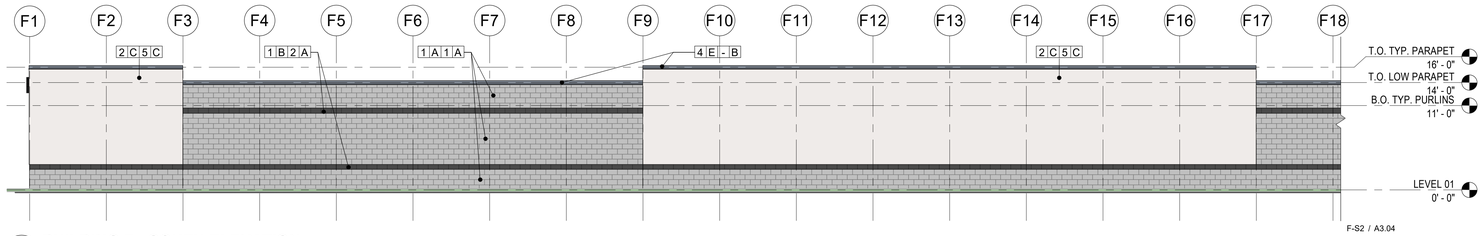


F-E BUILDING F - EAST ELEVATION
1/8" = 1'-0"

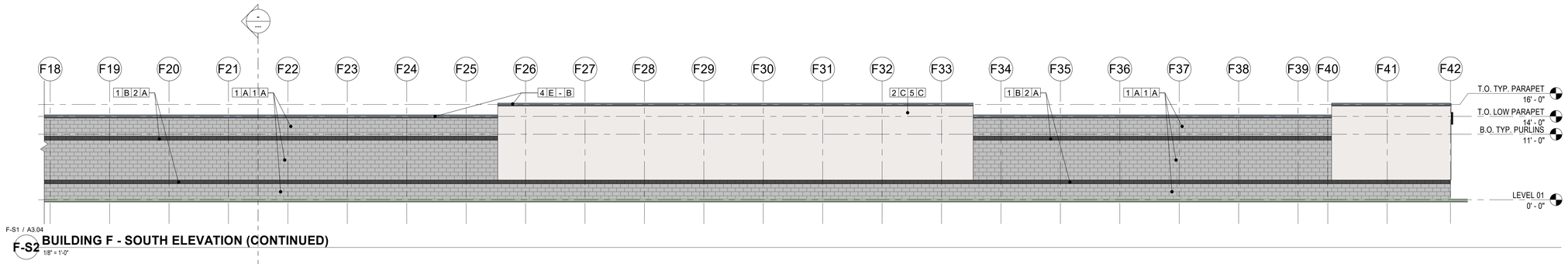
F-N2 BUILDING F - NORTH ELEVATION (CONTINUED)
1/8" = 1'-0"



F-W BUILDING F - WEST ELEVATION
1/8" = 1'-0"



F-S1 BUILDING F - SOUTH ELEVATION
1/8" = 1'-0"



F-S2 BUILDING F - SOUTH ELEVATION (CONTINUED)
1/8" = 1'-0"

SHEET NOTES:

A. REFER TO G0.01 FOR ABBREVIATIONS, SYMBOLS AND GENERAL PROJECT NOTES.
B. LOCATIONS OF DOORS AND WALLS PER PLAN. REFER TO SCHEDULES FOR ADDITIONAL INFORMATION.
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D. GALVANIZE EXPOSED EXTERIOR STEEL MEMBERS, SIZE PER STRUCTURAL TOUCH-UP WELD BURNS WITH GALVANIZING PAINT PRIOR TO APPLYING FINISH.
E. PROVIDE CONTINUOUS SUBSILLS WITH END DAMS, WELDED JOINTS AT ALL ALUMINUM FRAMING SYSTEMS.
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G. SUBMIT ALL EXTERIOR MATERIAL SAMPLES IN SINGLE SUBMITTAL. MATERIALS SUBMITTED SEPARATELY SHALL BE REJECTED.
H. MAINTAIN CODE REQUIRED SEPARATION BETWEEN ALL EXHAUST DISCHARGES AND OPERABLE OPENINGS OR PROPERTY LINE.
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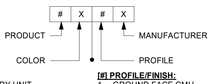
MATERIAL LEGEND:



[#] PRODUCT:
1. CONCRETE MASONRY UNIT
2. STUCCO
3. METAL SIDING
4. METAL TRIM (COPING, FASCIA, ETC)
5. SIGN

[#] PROFILE/FINISH:
1. GROUND FACE CMU
2. SPLIT FACE CMU
3. RIBBED METAL PANEL
4. FLAT, LARGE FORMAT PANEL
5. FINE TEXTURE [STUCCO, FINAL TBD]

[X] COLOR:
A. NATURAL
B. TBD - ACCENT BAND
C. CREAM
D. TBD - BRANDING COLOR
E. LIGHT GRAY
F. DARK GRAY

[X] MANUFACTURER:
A. TBD (MASONRY)
B. TBD (METAL SIDING)
C. TBD (OTHER)

NOTE: ALL COLORS INDICATED ARE SUBJECT TO CHANGE

KEYNOTES:

#	NOTE

JACKSON | MAIN
ARCHITECTURE
311 FIRST AVENUE SOUTH
SEATTLE, WA 98104
t.206.324.4800
WWW.JACKSONMAIN.COM

PROGRESS SET
NOT FOR CONSTRUCTION

THE CIRRUS COMPANY

YOSEMITE 1380, LLC
755 E YOSEMITE SUITE J
MERCED, CA 95340

YOSEMITE - MERCED SS

1380 E YOSEMITE
MERCED, CA

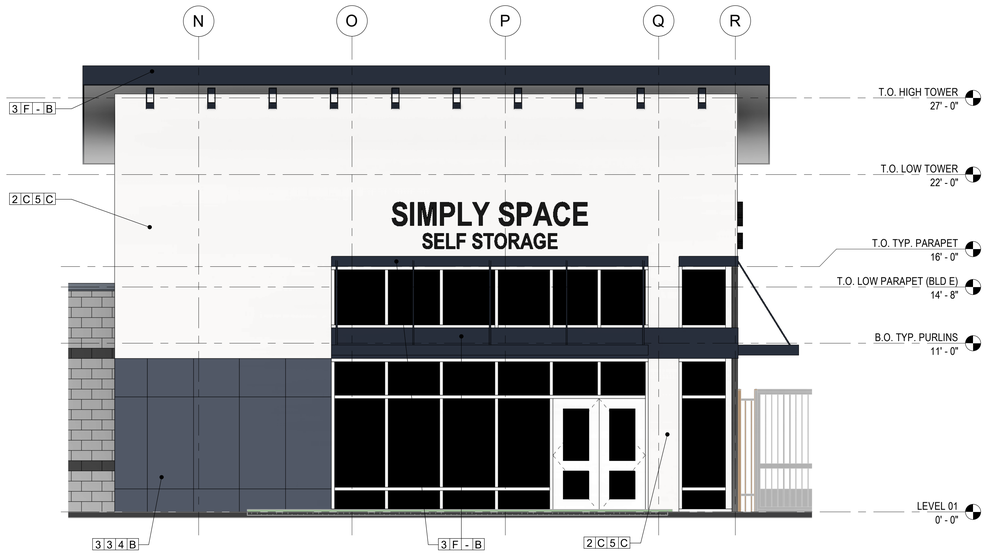
DESCRIPTION	NO.	DATE

PROJECT NO.:	23104
PROJECT MGR.:	Designer
DRAWN BY:	Author
CHECKED BY:	Checker

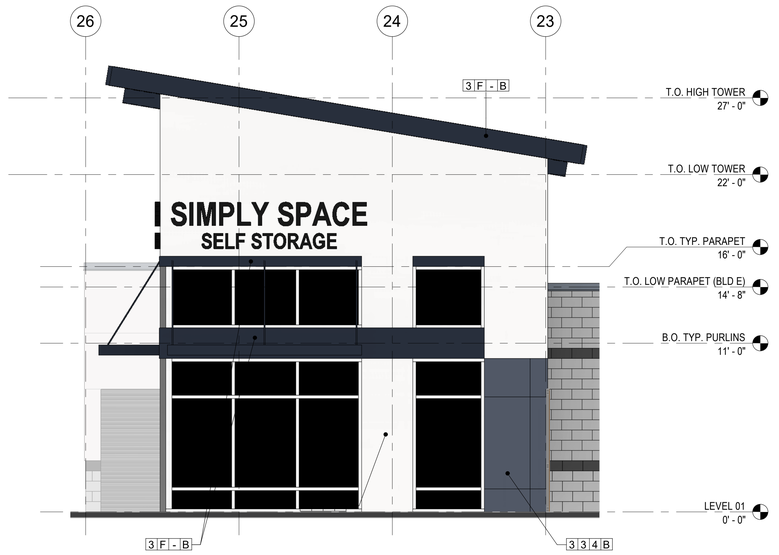
EXTERIOR ELEVATIONS (BUILDING F)

A3.04

5/21/2024 10:44:21 AM



2 ENLARGED ELEVATION - BUILDING E ENTRY - EAST
1/4" = 1'-0"



1 ENLARGED ELEVATION - BUILDING E ENTRY - NORTH
1/4" = 1'-0"

SHEET NOTES:

A. REFER TO G0.01 FOR ABBREVIATIONS, SYMBOLS AND GENERAL PROJECT NOTES.
B. LOCATIONS OF DOORS AND WALLS PER PLAN. REFER TO SCHEDULES FOR ADDITIONAL INFORMATION.
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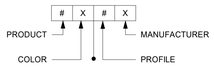
I. MAINTAIN CODE REQUIRED SEPARATION BETWEEN ALL EXHAUST DISCHARGES AND MECHANICAL INTAKES.
J. ALL EXTERIOR FINISHES SHALL TERMINATE AT AN INTERIOR CORNER U.N.O.
K. COORDINATE WITH ARCHITECT, CONSULTANTS AS NECESSARY LOCATION AND HEIGHTS OF EXTERIOR LOUVERS, HORNS, LIGHT FIXTURES, FIRE ALARM DEVICES PRIOR TO INSTALL.
L. COORDINATE WITH MANUFACTURER ALL VERTICAL AND HORIZONTAL FIBER CEMENT PANELS JOINTS OR BATTENS PER EXTERIOR ELEVATIONS.
M. EXTERIOR SOFFITS FINISH IS TO MATCH FASCIA U.N.O.
N. DAMPPROOFING TO BE TROWELED-ON U.N.O. IN SPECIFICATIONS.
O. EXPOSED CONCRETE WALL, COLUMNS, AND BEAMS FINISH CARBORUNDUM-RUBBED AND PAINTED, COLOR SELECTED BY ARCHITECT.
P. WITHIN MASONRY WALLS:
   1. EXTEND STEEL LINTELS MINIMUM 8" PAST EACH SIDE OF OPENING. PAINT ALL EXPOSED SURFACES BLACK
   2. PROJECT ROWLOCK/ SOLDIER BRICK ACCENT BANDS 5/8" FROM ADJACENT FINISH FACE OF FACADE.
   3. MASONRY WEEP HOLES AT 24" O.C., TYP. U.N.O. PER SPECIFICATIONS.
Q. GENERAL NOTES LISTED ON THIS PAGE ARE NOT INTENDED TO BE AT THE EXCLUSION OF NOTES LISTED ELSEWHERE; THIS DOCUMENT SET IS MEANT TO BE COMPLEMENTARY, AND NOTES LISTED ON OTHER SHEETS MAY HAVE BEARING/APPLICATION TO WORK SHOWN ON THIS SHEET.

MATERIAL LEGEND:



[#] PRODUCT:
1. CONCRETE MASONRY UNIT
2. STUCCO
3. METAL SIDING
4. METAL TRIM (COPING, FASCIA, ETC)
5. SIGN

[#] PROFILE/FINISH:
1. GROUND FACE CMU
2. SPLIT FACE CMU
3. RIBBED METAL PANEL
4. FLAT, LARGE FORMAT PANEL
5. FINE TEXTURE [STUCCO, FINAL TBD]

[X] COLOR:
A. NATURAL
B. TBD - ACCENT BAND
C. CREAM
D. TBD - BRANDING COLOR
E. LIGHT GRAY
F. DARK GRAY

[X] MANUFACTURER:
A. TBD (MASONRY)
B. TBD (METAL SIDING)
C. TBD (OTHER)

NOTE: ALL COLORS INDICATED ARE SUBJECT TO CHANGE

KEYNOTES:

#	NOTE

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PROGRESS SET
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THE CIRRUS COMPANY
YOSEMITE 1380, LLC
755 E YOSEMITE SUITE J
MERCED, CA 95340

YOSEMITE - MERCED SS
1380 E YOSEMITE
MERCED, CA

DATE	NO.	DESCRIPTION

PROJECT NO.:	23104
PROJECT MGR.:	Designer
DRAWN BY:	Author
CHECKED BY:	Checker

ENLARGED EXTERIOR ELEVATIONS

A3.11

5/21/2024 10:44:21 AM

Draft Vehicle Miles Traveled Analysis

Yosemite Subdivision

Located on the Southwest Quadrant of Parsons Avenue and Yosemite Avenue

In the City of Merced, California

Prepared for:
YCG Civil Engineering
1839 North Temperance Avenue
Fresno, CA 93727

September 25, 2024

Project No. 035-014

Traffic Engineering, Transportation Planning, & Parking Solutions
516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
Phone: (559) 570-8991
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Traffic Engineering, Transportation Planning, & Parking Solutions

Draft Vehicle Miles Traveled Analysis

For the Yosemite Subdivision located on the Southwest Quadrant of Parsons Avenue and Yosemite Avenue

In the City of Merced, CA

September 25, 2024

This Draft Vehicle Miles Traveled Analysis has been prepared under the direction of a licensed Traffic Engineer. The licensed Traffic Engineer attests to the technical information contained therein and has judged the qualifications of any technical specialists providing engineering data from which recommendations, conclusions and decisions are based.

Prepared by:

_____

Jose Luis Benavides, P.E., T.E.

President

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List of Appendices

Project Description

This report describes a **Vehicle Miles Traveled (VMT) Analysis** prepared by **JLB Traffic Engineering, Inc.** (JLB) for the **Yosemite Subdivision (Project)** located on the southwest quadrant of Parsons Avenue and Yosemite Avenue in the City of Merced. The Project proposes to develop a subdivision with 41 single-family housing dwelling units as well as 75,360 square feet of mini-storage. Based on information provided to JLB, the Project will undergo a General Plan Amendment. A Project Site Plan is shown in Appendix A.

Project Trip Generation

The trip generation rates for the proposed Project site were obtained from the *11th Edition of the Trip Generation Manual* published by the Institute of Transportation Engineers (ITE). Table I presents the trip generation for the proposed Project with trip generations rates for 41 dwelling units of Single-Family Detached Housing (210) and 75,360 square feet of Mini-Warehouse (151). At buildout, the proposed project is estimated to generate approximately 496 daily trips, 36 AM peak hour trips and 50 PM peak hour trips.

Table I: Project Trip Generation

Land Use (ITE Code)	*Size*	*Unit*	*Daily*		*AM (7-9) Peak Hour*						*PM (4-6) Peak Hour*					
			Rate	*Total*	*Trip Rate*	*In*	*Out*	*In*	*Out*	*Total*	*Trip Rate*	*In*	*Out*	*In*	*Out*	*Total*
						%						*%*				
Mini-Warehouse (151)	75.360	k.s.f.	1.45	109	0.09	59	41	4	3	7	0.15	47	53	5	6	11
Single-Family Detached Housing (210)	41	d.u.	9.43	387	0.70	26	74	8	21	29	0.94	63	37	25	14	39
Total Project Driveway Trips				**496**				**12**	**24**	**36**				**30**	**20**	**50**

Note: k.s.f. = Thousand Square Feet
d.u. = Dwelling Units

VMT Analysis

Regulatory Setting and Criteria of Significance

Senate Bill (SB) 743 requires that relevant CEQA analysis of transportation impacts be conducted using a metric known as VMT instead of Level of Service (LOS). VMT measures how much actual auto travel (additional miles driven) a proposed project would create on California roads. If the project adds excessive car travel onto our roads, the project may cause a significant transportation impact.

The State CEQA Guidelines were amended to implement SB 743, by adding Section 15064.3. Among its provisions, Section 15064.3 confirms that, except with respect to transportation projects, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS measures of impacts on traffic facilities are no longer a relevant CEQA criteria for transportation impacts.

CEQA Guidelines Section 15064.3(b)(4) states that "[a] lead agency has discretion to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revision to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."

This VMT Analysis follows the Merced County Association of Governments' (MCAG) *VMT Thresholds and Implementation Guidelines* referred to in this document as the MCAG VMT Guidelines. The MCAG VMT Guidelines were published in November 2022 and are consistent with the requirements of CEQA Guidelines Sections 15064.3 and 15064.7. The December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) published by the Governor's Office of Planning and Research (OPR), was utilized as a reference and guidance document in the preparation of the MCAG VMT Guidelines.

The MCAG VMT Guidelines adopted a screening standard and criteria that can be used to screen out qualified projects that meet the adopted criteria from needing to prepare a detailed VMT analysis. These criteria may be size, location, proximity to transit or trip making potential. In general, development projects that meet one or more of the following criteria can be screened out from a quantitative VMT analysis.

1. Project Located in a Transit Priority Area/High Quality Transit Corridor (within 0.5 miles of a transit stop)
2. Project is local-serving retail of less than 50,000 square feet
3. Redevelopment projects that result in an equal or net reduction in VMT
4. Project has 100% affordable-housing units
5. Project is a low trip generator that is consistent with the General Plan (Less than 1,000 average daily trips) or a low trip generator that is not consistent with the General Plan (Less than 500 average daily trips).
6. Institutional/ government and public service that support community health, safety and welfare
7. Local parks, daycare centers, student housing projects, local-serving gas stations, banks and K-12 public schools
8. Project is located in a low VMT zone

This screening tool is consistent with the OPR December 2018 Guidance referenced above. The screening tool includes an analysis of those portions of the city that satisfy the standard of reducing VMT by 14% from existing per capita and per employee VMT averages within the relevant region. The relevant region adopted by MCAG is Merced County.

For projects that are not screened out, a quantitative analysis of VMT impacts must be prepared and compared against the adopted VMT thresholds of significance. The MCAG VMT Guidelines document includes thresholds of significance for development projects, transportation projects and land use plans. These thresholds of significance were developed using the County of Merced as the applicable region, and the required reduction of VMT (as adopted in the MCAG VMT Guidelines) corresponds to Merced County's contribution to the statewide GHG emission reduction target. In order to reach the statewide GHG reduction target of 15%, Merced County must reduce its GHG emissions by 14%. The method of reducing GHG by 14% is to reduce VMT by 14% as well.

VMT is simply the product of a number of trips and those trips' lengths. The first step in a VMT analysis is to establish the baseline average VMT, which requires the definition of a region. The MCAG Guidelines for the City of Merced provide that the Merced County average VMT per Capita (appropriate for residential land uses), Employee (appropriate for office/commercial non-retail/other land uses) and VMT per Service Population (appropriate for service-oriented land uses) are 12.70, 10.22 and 24.96, respectively. The City's threshold targets a 14% reduction in VMT for residential, office/commercial non-retail, service-oriented and other land uses.

The City's adopted thresholds for development projects correspond to the regional averages modeled by MCAG's model. For residential and non-residential (except retail) development projects, the adopted threshold of significance is a 14% reduction. This means that projects that generate VMT in excess of a 14% reduction from the existing regional VMT per capita or per employee would have a significant environmental impact. Projects that reduce VMT by 14% or more are less than significant. The adopted threshold for retail projects is no net increase in Regional VMT when compared to the existing Regional VMT.

Conclusions

Based on the MCAG guidelines, projects that are low trip generators can be screened out of a quantitative VMT Analysis. Projects that are consistent with the *Merced Vision 2030 General Plan* have a low trip generator threshold of 1,000 average daily trips and projects that are not consistent with the *Merced Vision 2030 General Plan* have a low trip generator threshold of 500 average daily trips. This Project is not consistent with the *Merced Vision 2030 General Plan* but generates less than 500 daily trips. As a result, this Project is screened out from a quantitative VMT analysis and this Report serves as the required VMT Analysis for this Project.

Study Participants

JLB Traffic Engineering, Inc. Personnel

Jose Luis Benavides, PE, TE	Project Manager
Matthew Arndt, EIT	Engineer I/II
Arjun Dhillon	Engineering Aide

Persons Consulted:

Yushin Imura	YCG Civil Engineering
Kim Espinosa	City of Merced
Brian Guerrero	County of Merced

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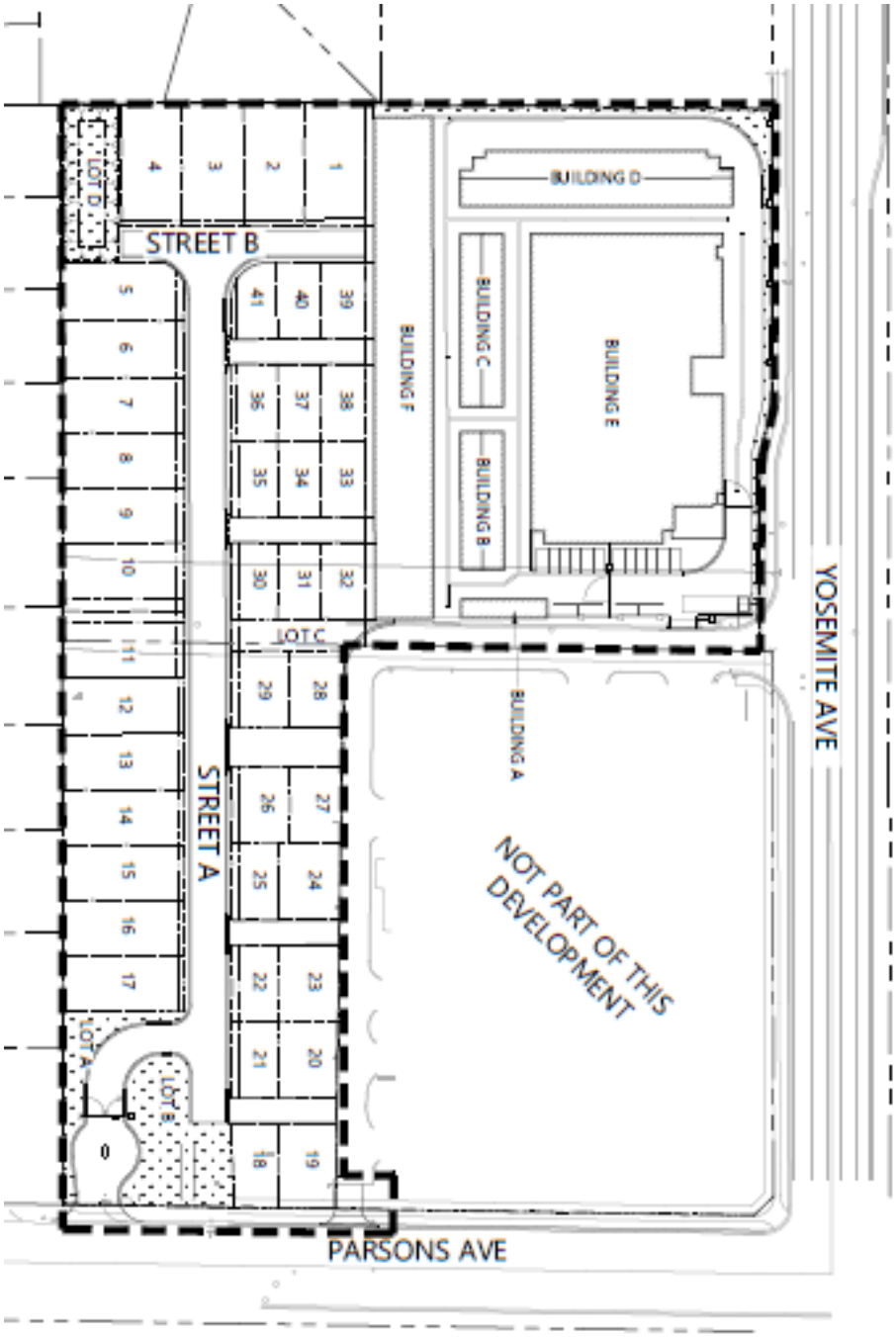
Appendix A: Site Plan



Traffic Impact Analysis Report

Yosemite Subdivision

Located on the Southwest Quadrant of Yosemite Avenue and Parsons Avenue

In the City of Merced, California

Prepared for:

YCG Civil Engineering
1839 N. Temperance Ave.
Fresno, CA 93727

January 9, 2025

Project No. 035-014

Traffic Engineering, Transportation Planning, & Parking Solutions
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Traffic Impact Analysis Report

For the Yosemite Subdivision located on the Southwest Quadrant of Yosemite Avenue and Parsons Avenue

In the City of Merced, CA

January 9, 2025

This Traffic Impact Analysis Report has been prepared under the direction of a licensed Traffic Engineer. The licensed Traffic Engineer attests to the technical information contained therein and has judged the qualifications of any technical specialists providing engineering data from which recommendations, conclusions and decisions are based.

Prepared by:

_____

Jose Luis Benavides, PE, TE

President

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Introduction and Summary

Introduction

This Report describes a Traffic Impact Analysis (TIA) prepared by JLB Traffic Engineering, Inc. (JLB) for the Yosemite Subdivision (Project) located on the southwest quadrant of Yosemite Avenue and Parsons Avenue in the City of Merced. The Project proposes the development of 41 single-family residential lots and approximately 75,360 square feet of mini storage. Based on information provided to JLB, the Project is not consistent with the *Merced Vision 2030 General Plan*. Figure 1 shows the location of the proposed Project site relative to the surrounding roadway network.

The purpose of the TIA is to evaluate the potential on-site and off-site traffic impacts, identify short-term and long-term roadway needs, determine potential roadway improvement measures and identify any critical traffic issues that should be addressed in the ongoing planning process. The TIA primarily focused on evaluating traffic conditions at study intersections that may potentially be impacted by the proposed Project. The Scope of Work was prepared via consultation with the City of Merced.

Summary

The potential traffic impacts of the proposed Project were evaluated in accordance with the standards set forth by the Level of Service (LOS) policy of the City of Merced.

Existing Traffic Conditions

- At present, all study intersections operate at an acceptable LOS during both peak periods.

Existing plus Project Traffic Conditions

- The Project proposes to have two (2) access points along the west side of Parsons Avenue and one (1) access point along the south side of Yosemite Avenue. These access points are described in further detail later in this Report.
- JLB analyzed the location of the existing and proposed roadways and access points. This review revealed that all access points are located at points that minimize traffic operational impacts to existing and future roadway networks.
- The surrounding Project site is well-developed with sidewalks providing good pedestrian facilities.
- The Project site is located near transit services and contains a class II bike lane along its frontage on Yosemite Avenue. Additionally, the City of Merced 2013 Bicycle Transportation Plan proposes to add a class II bike lane to Parsons Avenue. Therefore, it is recommended that the Project implement a Class II Bike Lane along its frontage to Parsons Avenue.
- At buildout, the proposed Project is estimated to generate approximately 496 daily trips, 36 AM peak hour trips and 50 PM peak hour trips.
- Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods.

Near Term plus Project Traffic Conditions

- The total trip generation for the Near Term Projects is 58,347 weekday daily trips, 3,339 weekday AM peak hour trips and 5,259 weekday PM peak hour trips.
- Under this scenario, all study intersections are projected to operate within the City's established LOS threshold. Additional details regarding this are presented later in this report.

Cumulative Year 2046 No Project Traffic Conditions

- Under this scenario, all study intersections are projected to operate within the City's established LOS threshold. Additional details regarding this are presented later in this report.

Cumulative Year 2046 plus Project Traffic Conditions

- Under this scenario, all study intersections are projected to operate within the City's established LOS threshold. Additional details regarding this are presented later in this report.

Queuing Analysis

- It is recommended that the City consider left-turn and right-turn lane storage lengths as indicated in the Queuing Analysis.

Scope of Work

The TIA focused on evaluating traffic conditions at study intersections that may potentially be impacted by the proposed Project. On September 27, 2024, a Draft Scope of Work for the preparation of a Traffic Impact Analysis for this Project was provided to the City of Merced for their review and comment.

The Draft Scope of Work was based on communication with City of Merced staff. On November 4, 2024, the City of Merced approved the Scope of Work as presented.

The Draft Scope of Work and the comments received from the City of Merced is included in Appendix A.

Study Facilities

The existing intersection peak hour turning movement counts were conducted at the study intersections in November 2024 while schools in the vicinity of the Project site were in session. The intersection turning movement counts included pedestrian and bicycle volumes. The traffic counts for the existing study intersections are contained in Appendix B. The existing intersection turning movement volumes, intersection geometrics and traffic controls are illustrated in Figure 2.

Study Intersections

Location

1. Driveway 1 / Yosemite Avenue
2. Parsons Avenue / Driveway 2

Study Scenarios

Existing Traffic Conditions

This scenario evaluates the Existing Traffic Conditions based on existing traffic volumes and roadway conditions from traffic counts and field surveys conducted in November 2024.

Existing plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Project Traffic Conditions. Existing volumes were adjusted in this scenario and all scenarios which include buildout of the project moving forward due to the fact that the existing driveway on Parsons Avenue would no longer provide access to the existing commercial building, requiring traffic to be rerouted. Adjustments were made by rerouting the existing inbound and outbound traffic from the existing driveway at Parsons Avenue to a new driveway proposed along the west side of Parson Avenue approximately 360' south of Yosemite Avenue. The Existing plus Project traffic volumes were obtained by adding the Project Only Trips to the adjusted Existing volumes. The Project Only Trips to the study facilities were developed based on existing travel patterns, the surrounding roadway network, engineering judgment, existing residential and commercial densities and the *Merced Vision 2030 General Plan Transportation and Circulation Element* in the vicinity of the Project site.

Near Term plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Near Term plus Project Traffic Conditions. The Near Term plus Project traffic volumes were obtained by adding the Near Term related trips to the Existing plus Project Traffic Volumes. The Near Term Trips to the study facilities were developed based on existing travel patterns, the surrounding roadway network, engineering judgment, data from existing studies, knowledge of the study area, existing residential and commercial densities and the *Merced Vision 2030 General Plan Transportation and Circulation Element* in the vicinity of the Project site.

Cumulative Year 2046 No Project Traffic Conditions

This scenario evaluates total traffic volumes and roadways conditions based on the Cumulative Year 2046 No Project Traffic Conditions. The Cumulative Year 2046 No Project traffic volumes were obtained by applying a growth rate of 1.3% for 22 years to the unadjusted Existing Traffic volumes, assuming full buildout of all Near Term plus Long Term Projects and utilizing the greater of the two volumes to create the Cumulative Year 2046 No Project Traffic Conditions volumes. This growth rate was derived from the Merced County Association of Governments (MCAG) models for the year 2023 and year 2046. Appendix C includes the Year 2023 and Year 2046 Model Plots for the Vicinity of the Project.

Cumulative Year 2046 plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadways conditions based on the Cumulative Year 2046 plus Project Traffic Conditions. The Cumulative Year 2046 plus Project traffic volumes were obtained similarly to the Cumulative Year 2046 No Project, however the growth rate of 1.3% and the full buildout of all Near Term Projects were applied to the adjusted Existing Traffic volumes rather than the unadjusted Existing Traffic volumes.

LOS Methodology

LOS is a qualitative index of the performance of an element of the transportation system. LOS is a rating scale running from "A" to "F", with "A" indicating no congestion of any kind and "F" indicating unacceptable congestion and delays. LOS in this study describes the operating conditions for signalized and unsignalized intersections.

The *Highway Capacity Manual* (HCM) 6th Edition is the standard reference published by the Transportation Research Board and contains the specific criteria and methods to be used in assessing LOS. Synchro software was used to define LOS in this study. Details regarding these calculations are included in Appendix D.

While LOS is no longer the criteria of significance for traffic impacts in the state of California, the City of Merced continues to apply congestion-related conditions or requirements for land development projects through planning approval processes outside of CEQA Guidelines in order to continue the implementation of City of Merced *Vision 2030 General Plan* policies.

LOS Thresholds

The City of Merced Vision 2030 Circulation Element has established LOS D as the acceptable level of traffic congestion on most intersections. Therefore, the LOS D threshold was utilized to evaluate the potential significance of LOS impacts to City of Merced roadway facilities.

Operational Analysis Assumptions and Defaults

The following operational analysis values, assumptions and defaults were used in this study to ensure a consistent analysis of LOS among the various scenarios.

- At existing intersections, a minimum heavy vehicle factor of 3 percent was utilized for all main roadways and a minimum of 1 percent was utilized for driveways under all scenarios.
- The number of observed pedestrians at existing intersections was utilized under all study scenarios.
- At existing intersections, the observed approach Peak Hour Factor (PHF) is utilized in the Existing and Existing plus Project scenarios.
- A PHF of 0.88, or the existing PHF, if higher, is utilized for all intersections in the Near Term plus Project scenarios.
- A PHF of 0.92, or the existing PHF, if higher, is utilized for all intersections in the Cumulative Year 2046 scenarios.

Existing Traffic Conditions

Roadway Network

The Project site and surrounding study area are illustrated in Figure 1. Important roadways serving the Project are discussed below.

Yosemite Avenue is an existing east-west four-lane undivided arterial adjacent to the proposed Project site. Adjacent to the Project, Yosemite Avenue is a four-lane undivided arterial. The Merced Vision 2030 General Plan designates Yosemite Avenue as a divided arterial between "R" Street and Parsons Avenue and east of Lake Road, a major arterial west of "R" Street and classified as a special street section between Parsons Avenue and Lake Road. Furthermore, the Merced Vision 2030 General Plan acknowledged that Yosemite Avenue would exceed LOS D as a four-lane divided arterial between "R" Street and Parsons Avenue. However, City Council made appropriate findings to designate LOS F as the criteria of significance for Yosemite Avenue as four-lane facility between "R" Street and Parsons Avenue.

Parsons Avenue is an existing north-south two-lane undivided arterial adjacent to the proposed Project site. The Merced Vision 2030 General Plan designates Parsons Avenue as a four-lane arterial between Yosemite Avenue and North Bear Creek Drive.

Gardner Avenue is an existing north-south two-lane undivided arterial in the vicinity of the proposed Project site. The Merced Vision 2030 General Plan designates Gardner Avenue as a four-lane arterial between Yosemite Avenue and Cardella Road.

Traffic Signal Warrants

The CA MUTCD indicates that an engineering study of traffic conditions, pedestrian characteristics and physical features of an intersection shall be conducted to determine whether the installation of traffic signal controls are justified. The CA MUTCD provides a total of nine (9) warrants to evaluate the need for traffic signal controls. These warrants include 1) Eight-Hour Vehicular Volume, 2) Four-Hour Vehicular Volume, 3) Peak Hour, 4) Pedestrian Volume, 5) School Crossing, 6) Coordinated Signal System, 7) Crash Experience, 8) Roadway Network and 9) Intersection Near a Grade Crossing. Signalization of an intersection may be appropriate if one or more of the signal warrants is satisfied. However, the CA MUTCD also states that "[t]he satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic control signal" (Caltrans, 2021).

If traffic signal warrants are satisfied when a LOS threshold impact is identified at an unsignalized intersection, then installation of a traffic signal control may serve as an improvement measure. For instances where traffic signal warrants are satisfied, a traffic signal control is not considered to be the default improvement measure. Since the installation of a traffic signal control typically results in an increase in delay to the major street and thus the majority of traffic, an attempt is made to improve the intersection approach lane geometrics in order to improve its LOS while maintaining the existing intersection controls. If the additional lanes did not result in acceptable LOS at the intersection, then in those cases implementation of a traffic signal control would be considered.

Warrant 3 was prepared for the unsignalized intersections under the Existing Traffic Conditions scenario. These warrants are contained in Appendix J. Under this scenario, none of the intersections satisfy the peak hour signal warrant during either peak period.

Results of Existing Level of Service Analysis

Figure 2 illustrates the Existing Traffic Conditions turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing Traffic Conditions scenario are provided in Appendix E. Table I presents a summary of the Existing peak hour LOS at the study intersections.

At present, all study intersections operate at an acceptable LOS during both peak periods.

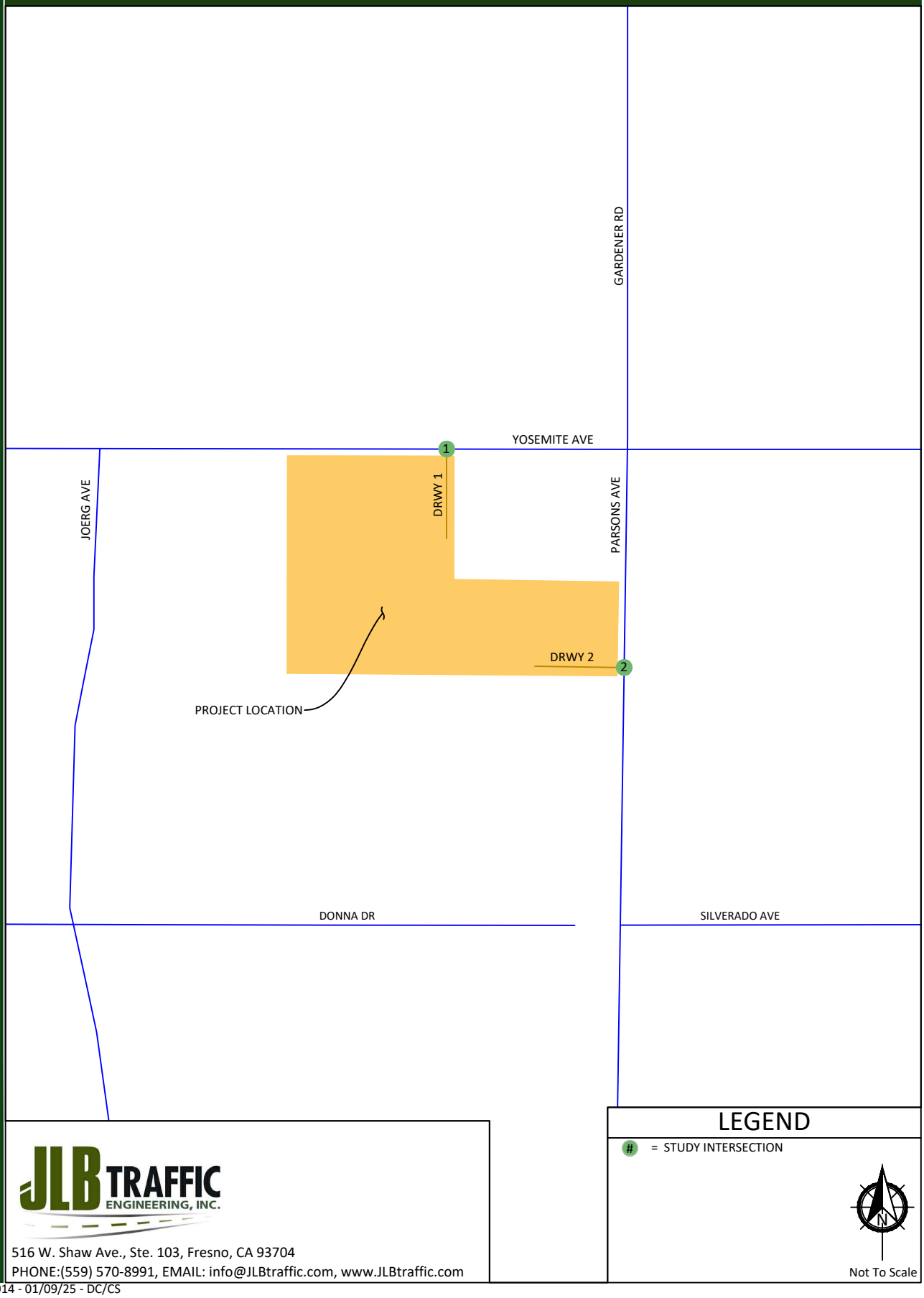
Table I: Existing Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM (7 - 9) Peak Hour*		*PM (4 - 6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Driveway 1 / Yosemite Avenue	One-Way Stop	14.7	B	20.1	C
2	Parsons Avenue / Driveway 2	One-Way Stop	10.6	B	10.1	B

Note: LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Yosemite Subdivision TIA - City of Merced
Vicinity Map

Figure 1



LEGEND

(#) = STUDY INTERSECTION

Not To Scale

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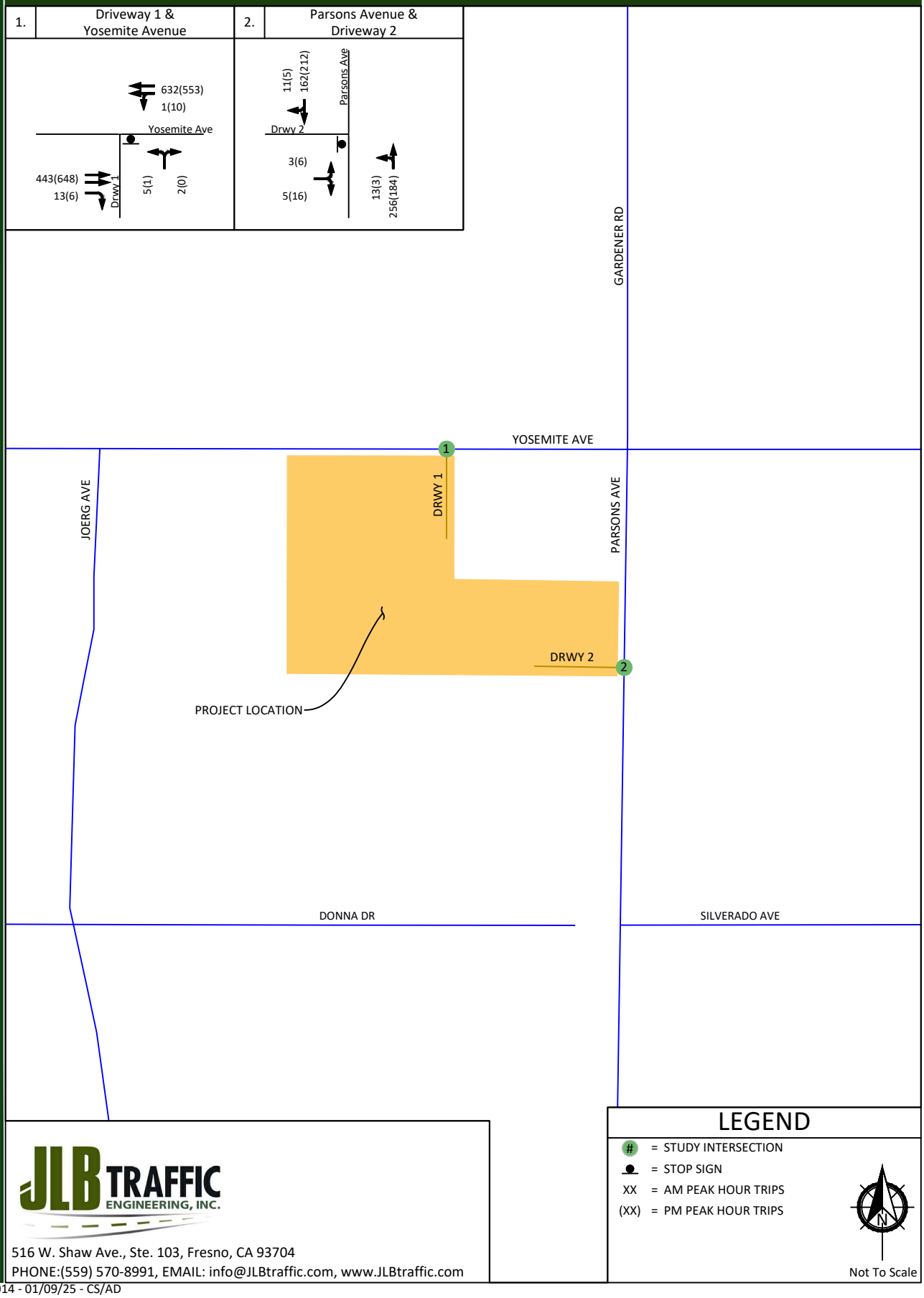
Yosemite Subdivision TIA - City of Merced
Existing - Traffic Volumes, Geometrics and Controls

Figure 2



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Existing plus Project Traffic Conditions

Project Description

The Project proposes to develop 41 single-family residential lots and approximately 75,360 square feet of mini storage. Based on information provided to JLB, the Project is not consistent with the *Merced Vision 2030 General Plan* and will undergo a General Plan amendment. Figure 3 illustrates the latest combined Project Site Plan.

Project Access

Based on the Project Site Plan, access to and from the Project site is predominantly from three (3) access points. The first proposed access point is an existing driveway located along the south side of Yosemite Avenue approximately 450 feet west of Parsons Avenue. This access point will continue to serve as full access and will be dedicated for the existing commercial building and the proposed mini-storage. The second proposed access point is an existing driveway located along the west side of Parsons Avenue approximately 575 feet south of Yosemite Avenue. This access point will continue to serve as full access. However, this driveway is proposed to serve only the proposed single-family residential component of the Project. The third proposed access point is located along the west side of Parsons Avenue approximately 360 feet south of Yosemite Avenue. This proposed access point is proposed to be full access and will serve the existing commercial building along with the proposed mini-storage facility.

JLB analyzed the location of the existing and proposed roadways and access points relative to those in the vicinity of the Project site. A review of the existing and proposed roadways and access points indicates that they are located at points that minimize traffic operational impacts to existing and future roadway networks. A Project Site Plan can be found in Figure 3.

Project Trip Generation

Trip generation rates for the proposed Project were obtained from the 11th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE) and information provided by the City of Merced. Table II presents the trip generation for the proposed Project with estimated trip generation rates for Mini-Warehouse (151) and Single-Family Detached Housing (210) land uses. At buildout, the proposed Project is estimated to generate approximately 496 daily trips, 36 AM peak hour trips and 50 PM peak hour trips.

Table II: Project Trip Generation

Land Use (ITE Code)	*Size*	*Unit*	*Daily*		*AM (7-9) Peak Hour*						*MD (11-1) Peak Hour*					
			Rate	*Total*	*Trip Rate*	*In*	*Out*	*In*	*Out*	*Total*	*Trip Rate*	*In*	*Out*	*In*	*Out*	*Total*
						%						*%*				
Mini-Warehouse (151)	75	k.s.f.	1.45	109	0.09	59	41	4	3	7	0.15	47	53	5	6	11
Single-Family Detached Housing (210)	41	d.u.	9.43	387	0.70	26	74	8	21	29	0.94	63	37	25	14	39
Total Project Trips				**496**				**12**	**24**	**36**				**30**	**20**	**50**

Trip Distribution

The trip distribution assumptions were developed based on existing travel patterns, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the Merced Vision 2030 General Plan Transportation and Circulation Element in the vicinity of the Project. Figure 4 presents the Project Only Trips to the study intersections.

Bikeways

Bikeways exist adjacent to and in the vicinity of the Project site. Adjacent to the Project site, a Class II Bikeway exists along Yosemite Avenue. The City of Merced *2013 Bicycle Transportation Plan* has planned bikeways in the vicinity of the Project site. In the vicinity of the Project, the Merced 2030 Vision General Plan has a Class II Bikeway planned on Parsons Avenue, along the east side of McKee Road and along the west side of Gardner Avenue. Therefore, it is recommended that the Project implement a Class II Bikeway along its frontage to Parsons Avenue.

Walkways

Walkways exist adjacent to and in the vicinity of the Project site. Adjacent to the Project site, walkways exist along Yosemite Avenue and Parsons Avenue.

Transit

The BUS, Merced's Regional Transit System, is the single public transportation provider for all of Merced County. At present, there is only one route – UC "UC Merced" – that has stops adjacent to the proposed Project and two more – M3 "M Street Shuttle" and M4 "G Street Shuttle" – that stop approximately 0.5 miles from the Project. Retention of the existing and expansion of future transit routes is dependent on transit ridership demand and available funding.

Route UC runs on Yosemite Avenue adjacent to the proposed Project. Its nearest stop to the Project is located along the south side of Yosemite Avenue approximately 200 feet west of Parsons Avenue. Route UC operates at 40-minute intervals on weekdays and 90-minute intervals on weekends. This route provides a direct connection to Merced College, Amtrak, Mercy Medical, Promenade, UC Merced, Social Security and the Downtown area.

Route M3 runs on Yosemite Avenue in the vicinity of the proposed Project. Its nearest stop to the Project is located along the south side of Yosemite Avenue approximately 80 feet east of Cordova Avenue. Route M3 operates at 30-minute intervals on weekdays and 90-minute intervals on weekends. This route provides a direct connection to County Administration, Target, Merced Mall, Merced College, Social Security, Mercy Medical, and Raley's.

Route M4 runs on Yosemite Avenue in the vicinity of the proposed Project. Its nearest stop to the Project is located along the south side of Yosemite Avenue approximately 80 feet east of Cordova Avenue. Route M4 operates at 30-minute intervals on weekdays and 60-minute intervals on weekends. This route provides a direct connection to East Campus, Save Mart, Raley's, Merced College and Mercy Medical.

Traffic Signal Warrants

Warrant 3 was prepared for the unsignalized intersections under the Existing plus Project Traffic Conditions scenario. These warrants are contained in Appendix J. Under this scenario, none of the intersections satisfy the peak hour signal warrant during either peak period.

Roadway Network

The Existing plus Project Traffic Conditions scenario assumes that the Existing scenario's roadway geometrics and traffic controls will remain in place except for the addition of the Project and its driveways. However, as mentioned earlier in this report, existing inbound and outbound traffic from Driveway 2 were rerouted to a driveway proposed along the west side of Parsons Avenue approximately 360' south of Yosemite Avenue. This was due to the fact that the existing driveway on Parsons Avenue would no longer provide access to the existing commercial building, requiring traffic to be rerouted. Figure 5 illustrates the assumed intersection geometrics and traffic controls for the study intersections under this scenario.

Results of Existing plus Project Level of Service Analysis

Figure 5 illustrates the Existing plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing plus Project Traffic Conditions scenario are provided in Appendix F. Table III presents a summary of the Existing plus Project peak hour LOS at the study intersections.

At present, all study intersections operate at an acceptable LOS during both peak periods.

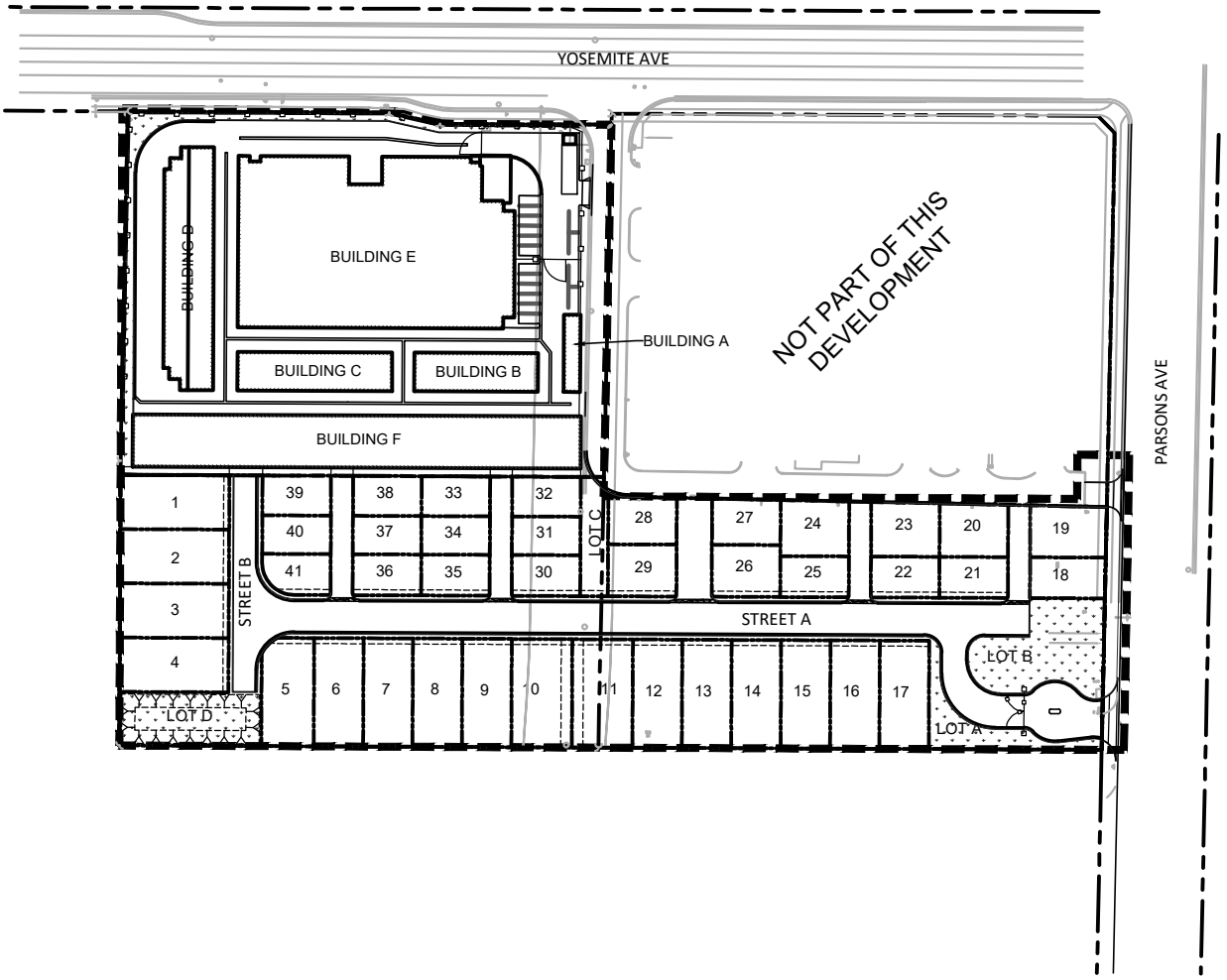
Table III: Existing plus Project Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM (7 - 9) Peak Hour*		*PM (4 - 6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Driveway 1 / Yosemite Avenue	One-Way Stop	15.4	C	20.9	C
2	Parsons Avenue / Driveway 2	One-Way Stop	11.6	B	11.1	B

Note: LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Yosemite Subdivision TIA - City of Merced
Project Site Plan

Figure 3



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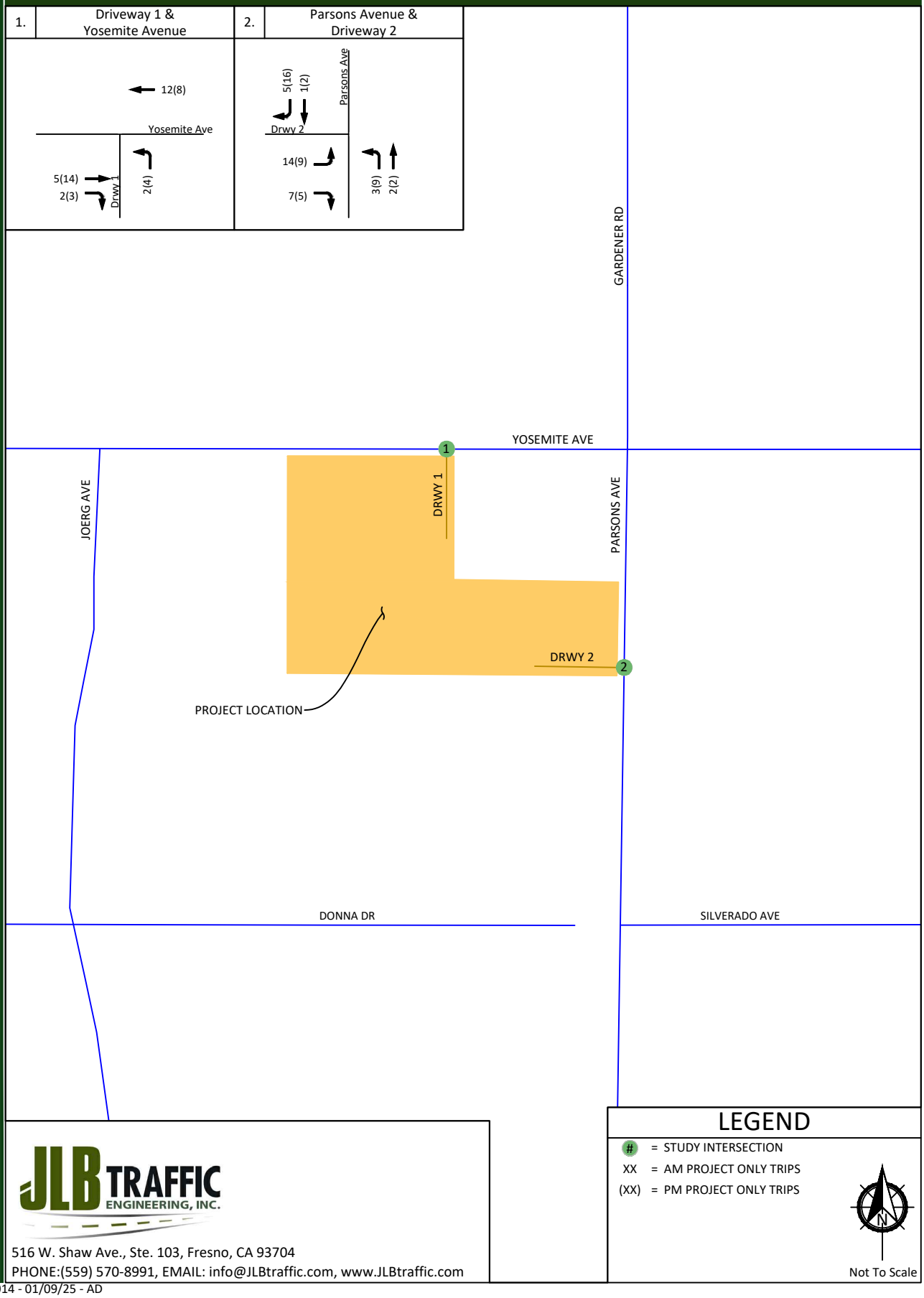
Not To Scale

Yosemite Subdivision TIA - City of Merced
Project Only Trips

Figure 4



LEGEND

# = STUDY INTERSECTION
XX = AM PROJECT ONLY TRIPS
(XX) = PM PROJECT ONLY TRIPS

Not To Scale

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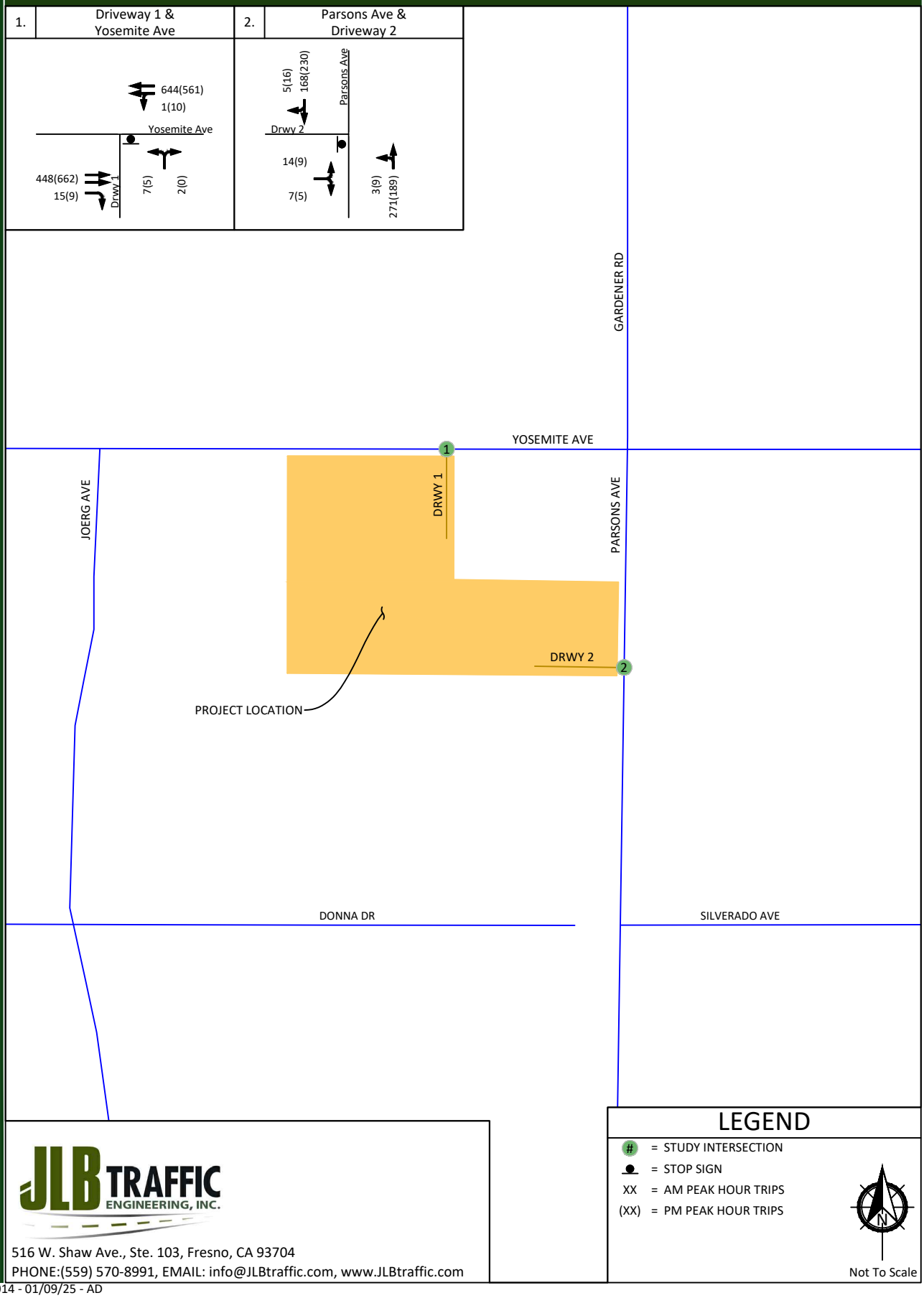
Yosemite Subdivision TIA - City of Merced
Existing plus Project - Traffic Volumes, Geometrics and Controls

Figure 5



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Near Term plus Project Traffic Conditions

Description of Near Term Projects

Near Term Projects consist of developments that are either under construction, built but not fully occupied, are not built but have final site development review (SDR) approval, or for which the lead agency or responsible agencies have knowledge of. The City of Merced staff were consulted throughout the preparation of this TIA regarding Near Term Projects that could potentially impact the study intersections. JLB staff conducted a reconnaissance of the surrounding area to confirm the Near Term Projects. Therefore, the Near Term Projects listed in Table IV were within proximity of the Project site.

Table IV: Near Term Projects' Trip Generation

Near Term Project ID	*Near Term Project Name*	*Daily Trips*	*AM Peak Hour*	*PM Peak Hour*
A	Bellevue Ranch North, Village 23 and 24[1]	1,000	74	100
B	Bellevue Ranch West, Villages 17 & 18[1]	6,485	447	592
C	Bianchi & Norcal Cajun Annexation[1]	1,989	86	241
D	Cottages at El Redondo[1]	538	40	54
E	Crest View[1]	679	50	68
F	Yosemite Crossing[1]	8,126	740	623
G	Merced Mall Expansion[1]	10,347	177	896
H	Northview Medical Offices[1]	2,392	206	261
I	Pro-Lube & Car Wash & Sandwich Shop[1]	1,928	177	173
J	Salazar[1]	387	29	39
K	Summer Field[1]	2,376	176	237
L	Terrazzo[1]	660	49	66
M	The Crossing at River Oaks[1]	2,612	194	260
N	University Village Merced Annexation[1]	8,460	365	764
O	Yosemite & McKee Commercial Center[1]	2,833	162	279
P	Yosemite Plaza[1]	3,956	236	299
Q	Merced Gateway Center[1]	3,579	131	307
Total Near Term Project Trips		**58,347**	**3,339**	**5,259**

Note: 1 = Trip Generation prepared by JLB Traffic Engineering, Inc. based on readily available information

The trip generation listed in Table IV is that which is anticipated to be added to the streets and highways by Near Term Projects between the time of the preparation of this Report and approximately five (5) years after buildout of the proposed Project. As shown in Table IV, the total trip generation for the Near Term Projects is 58,347 weekday daily trips, 3,339 weekday AM peak hour trips and 5,259 weekday PM peak hour trips. Figure 6 illustrates the location of the Near Term Projects and their combined trip assignment to the study intersections under the Near Term plus Project Traffic Conditions scenario.

Traffic Signal Warrants

Warrant 3 was prepared for the unsignalized intersections under the Near Term plus Project Traffic Conditions scenario. These warrants are contained in Appendix J. Under this scenario, none of the intersections satisfy the peak hour signal warrant during either peak period.

Roadway Network

The Near Term plus Project Traffic Conditions scenario assumes that the Existing plus Project scenario's roadway geometrics and traffic controls will remain in place. Figure 7 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Results of Near Term plus Project Level of Service Analysis

Figure 7 illustrates the Near Term plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Near Term plus Project Traffic Conditions scenario are provided in Appendix G. Table V presents a summary of the Near Term plus Project peak hour LOS at the study intersections.

Under this scenario, all study intersections are projected to operate within the City's established LOS threshold. However, the intersection of Driveway 1 at Yosemite Avenue is projected to operate at LOS E during the PM peak period. It should be noted that the City made findings of overriding consideration to accept LOS F as the threshold for Yosemite Avenue between "R" Street and Parsons Avenue. As such, the LOS for Driveway 1 at Yosemite Avenue is considered adverse but not significant. Additionally, Driveway 1 at Yosemite Avenue has a minimal number of trips with only 5 trips exiting during the PM peak period. Furthermore, LOS is no longer the criteria of significance for traffic impacts in the State of California. Lastly, additional improvements to this intersection would lead to increased delays and congestion on Yosemite Avenue. As a result, we recommend that no improvements be made to the intersection of Driveway 1 at Yosemite Avenue as part of the Near Term plus Project scenario.

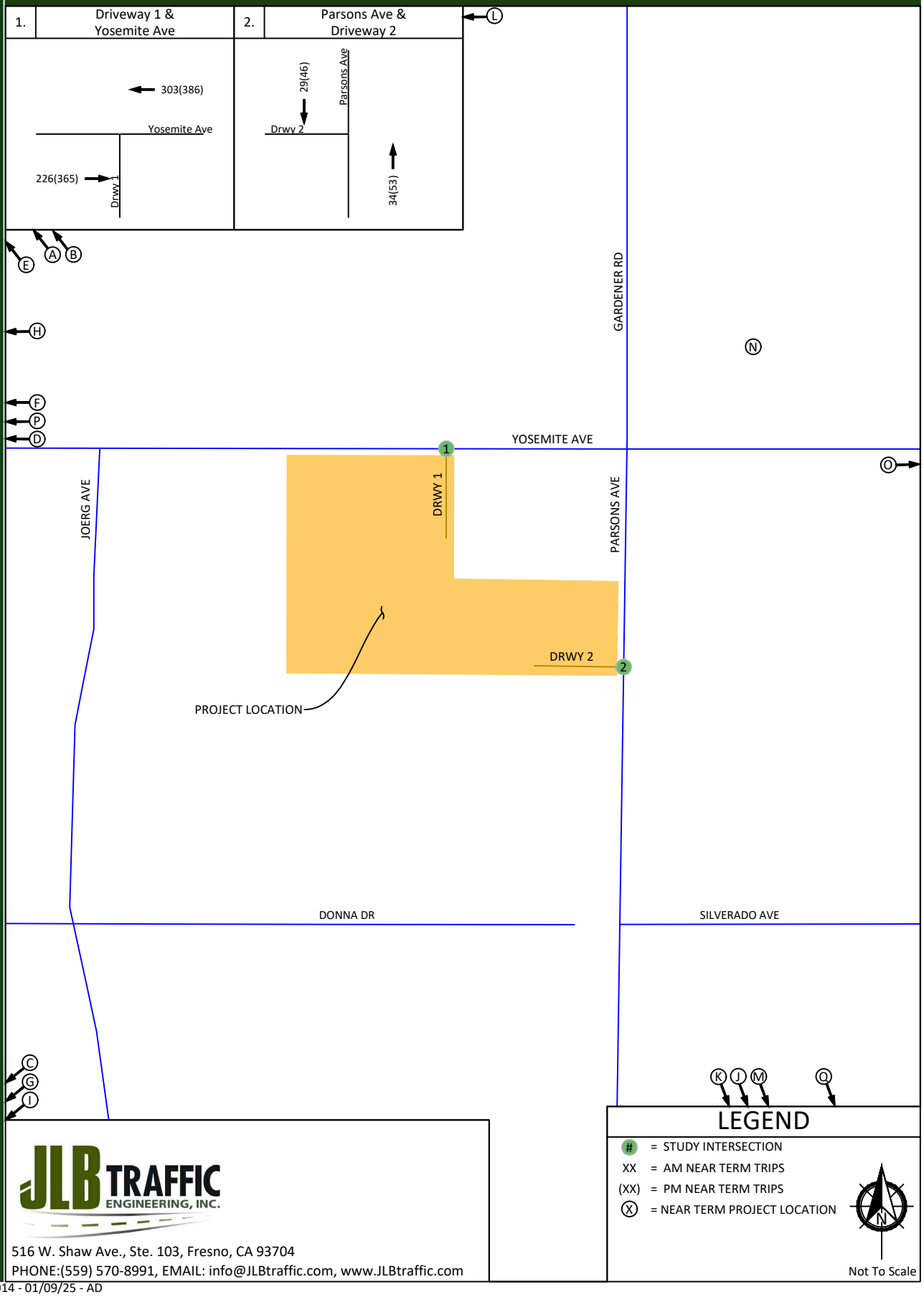
Table V: Near Term plus Project Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM (7 - 9) Peak Hour*		*PM (4 - 6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Driveway 1 / Yosemite Avenue	One-Way Stop	23.8	C	46.0	E
2	Parsons Avenue / Driveway 2	One-Way Stop	11.8	B	11.9	B

Note: LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Yosemite Subdivision TIA - City of Merced
Near Term Project Trip Assignment

Figure 6



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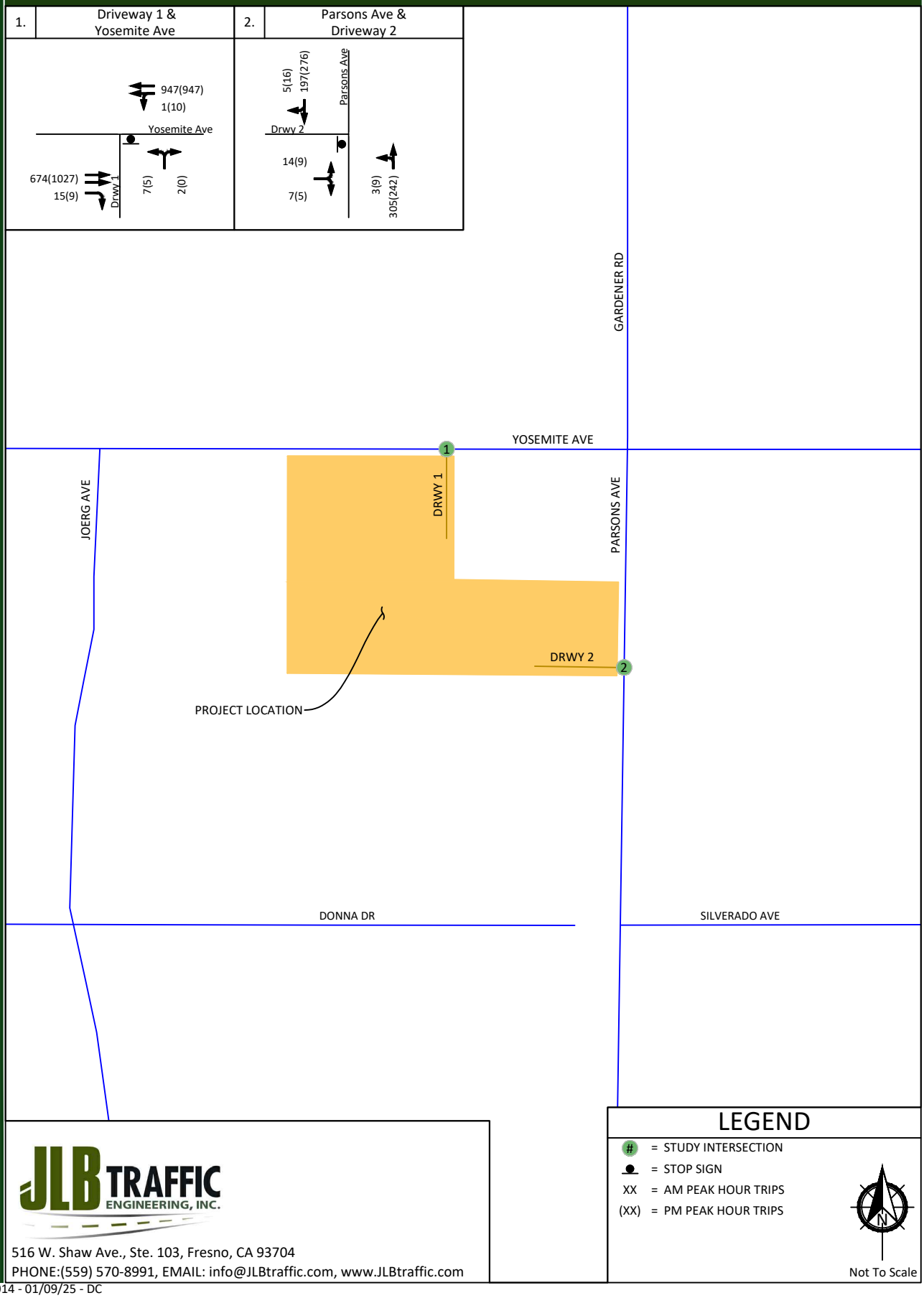
Yosemite Subdivision TIA - City of Merced
Near Term plus Project - Traffic Volumes, Geometrics and Controls

Figure 7



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Cumulative Year 2046 No Project Traffic Conditions

Description of Long Term Projects

Long Term Projects consist of developments that are either built but not fully occupied, are not built but have final site development review (SDR) approval, or for which the lead agency have knowledge of and their construction is projected to take place after five years from the date of preparation of this TIA. Based on readily available information and site plans, it is reasonable to assume that parcel 2 of Merced Gateway Center, Bellevue Ranch 2 North phases 3 and 4, the entirety of Bright Development and the entirety of Regency Court Apartments will take longer than five years to be built and occupied. The Long Term Projects listed in Table VI were within the proximity of the Project site and are not anticipated to be built until after five years from the time of preparation of this TIA.

Table VI: Long Term Projects' Trip Generation

Near Term Project ID	*Near Term Project Name*	*Daily Trips*	*AM Peak Hour*	*PM Peak Hour*
Q	Merced Gateway Center[1]	17,458	531	1,546
R	Bellevue Ranch 2 North Phases 3 & 4[1]	29,122	1,837	2,815
S	Bright Development[1]	1,518	113	151
T	Regency Court Apartments[1]	863	51	65
Total Near Term Project Trips		**48,961**	**2,532**	**4,577**

Note: 1 = Trip Generation prepared by JLB Traffic Engineering, Inc. based on readily available information

The trip generation listed in Table VI is that which is anticipated to be added to the streets and highways by Long Term Projects between the Near Term plus Project Scenario and the Cumulative Year 2046 No Project scenario. As shown in Table VI, the total trip generation for the Long Term Projects is 48,961 weekday daily trips, 2,532 weekday AM peak hour trips and 4,577 weekday PM peak hour trips. Figure 8 illustrates the location of the Long Term Projects and their combined trip assignment to the study intersections under the Cumulative Year 2046 No Project Traffic Conditions scenario.

Traffic Signal Warrants

Warrant 3 was prepared for the unsignalized intersections under the Cumulative Year 2046 No Project Traffic Conditions scenario. These warrants are contained in Appendix J. Under this scenario, none of the intersections satisfy the peak hour signal warrant during either peak period.

Roadway Network

The Cumulative Year 2046 No Project Traffic Conditions scenario assumes that the Existing roadway geometrics and traffic controls will remain in place but that both the Near Term and the Long Term Project Trips are added to the study facilities in addition to the anticipated growth in traffic. The Cumulative Year 2046 No Project traffic volumes were obtained by applying a growth rate of 1.3% for 22 years to the unadjusted Existing Traffic volumes, assuming full buildout of all Near Term and Long Term Projects and utilizing the greater of the two volumes to create the Cumulative Year 2046 No Project Traffic Conditions volumes. Figure 9 illustrates the assumed intersection geometrics and traffic controls for the study intersections under this scenario.

Results of Cumulative Year 2046 No Project Level of Service Analysis

Figure 9 illustrates the Cumulative Year 2046 No Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2046 No Project Traffic Conditions scenario are provided in Appendix H. Table VII presents a summary of the Cumulative Year 2046 No Project peak hour LOS at the study intersections.

Under this scenario, all study intersections are projected to operate within the City's established LOS threshold. However, the intersection of Driveway 1 at Yosemite Avenue is projected to operate at LOS F during the PM peak period. It should be noted that the City made findings of overriding consideration to accept LOS F as the threshold for Yosemite Avenue between "R" Street and Parsons Avenue. As such, the LOS for Driveway 1 at Yosemite Avenue is considered adverse but not significant. Additionally, Driveway 1 at Yosemite Avenue has a very minimal number of trips with only 1 trip exiting during the PM peak period. Furthermore, LOS is no longer the criteria of significance for traffic impacts in the State of California. Lastly, additional improvements to this intersection would lead to increased delays and congestion on Yosemite Avenue. As a result, we recommend that no improvements be made to the intersection of Driveway 1 at Yosemite Avenue as part of the Cumulative Year 2046 No Project scenario.

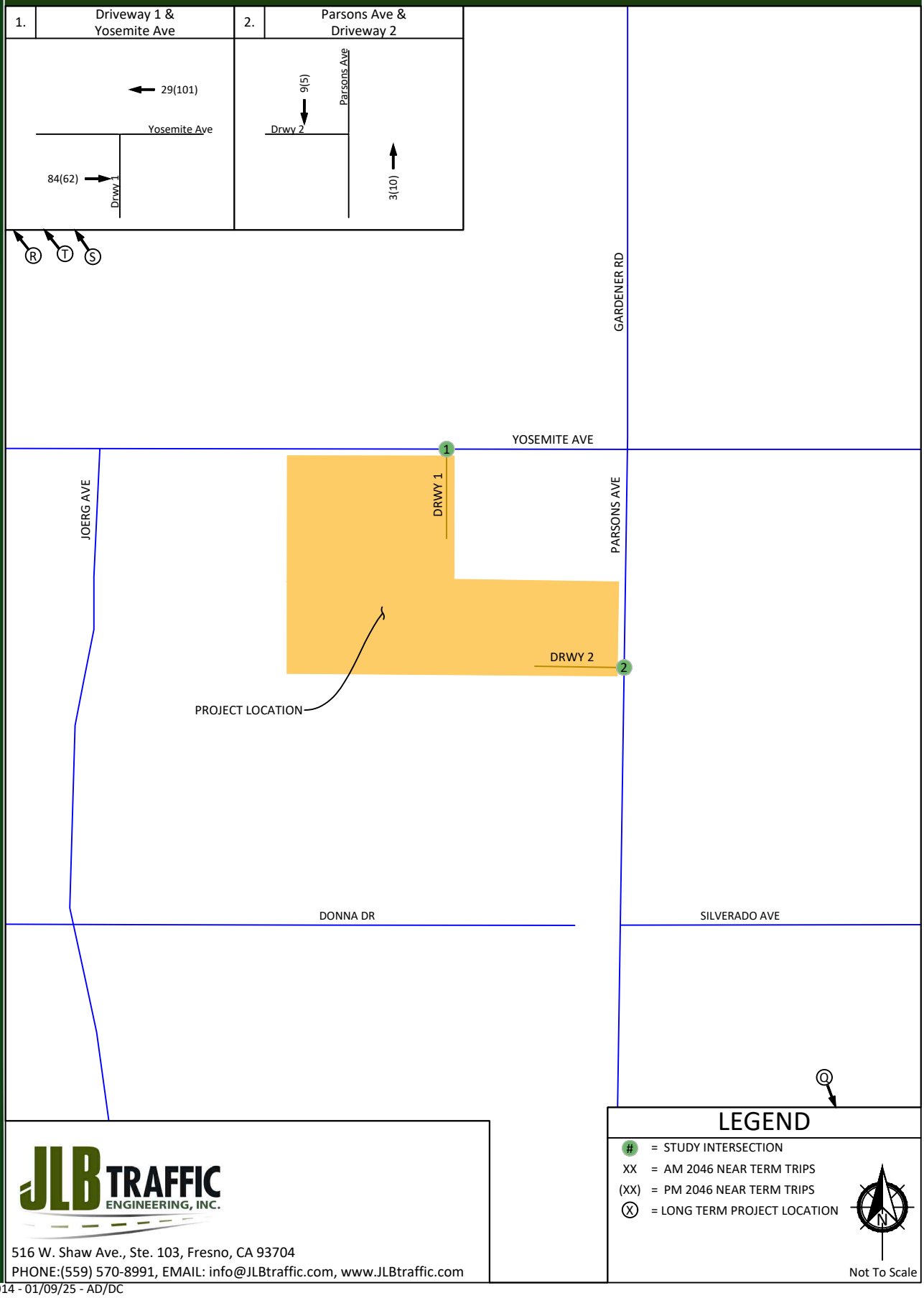
Table VII: Cumulative Year 2046 No Project Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM (7 - 9) Peak Hour*		*PM (4 - 6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Driveway 1 / Yosemite Avenue	One-Way Stop	25.2	D	51.8	F
2	Parsons Avenue / Driveway 2	One-Way Stop	11.1	B	10.9	B

Note: LOS for two-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Yosemite Subdivision TIA - City of Merced
2046 Long Term Projects' Trip Assignment

Figure 8



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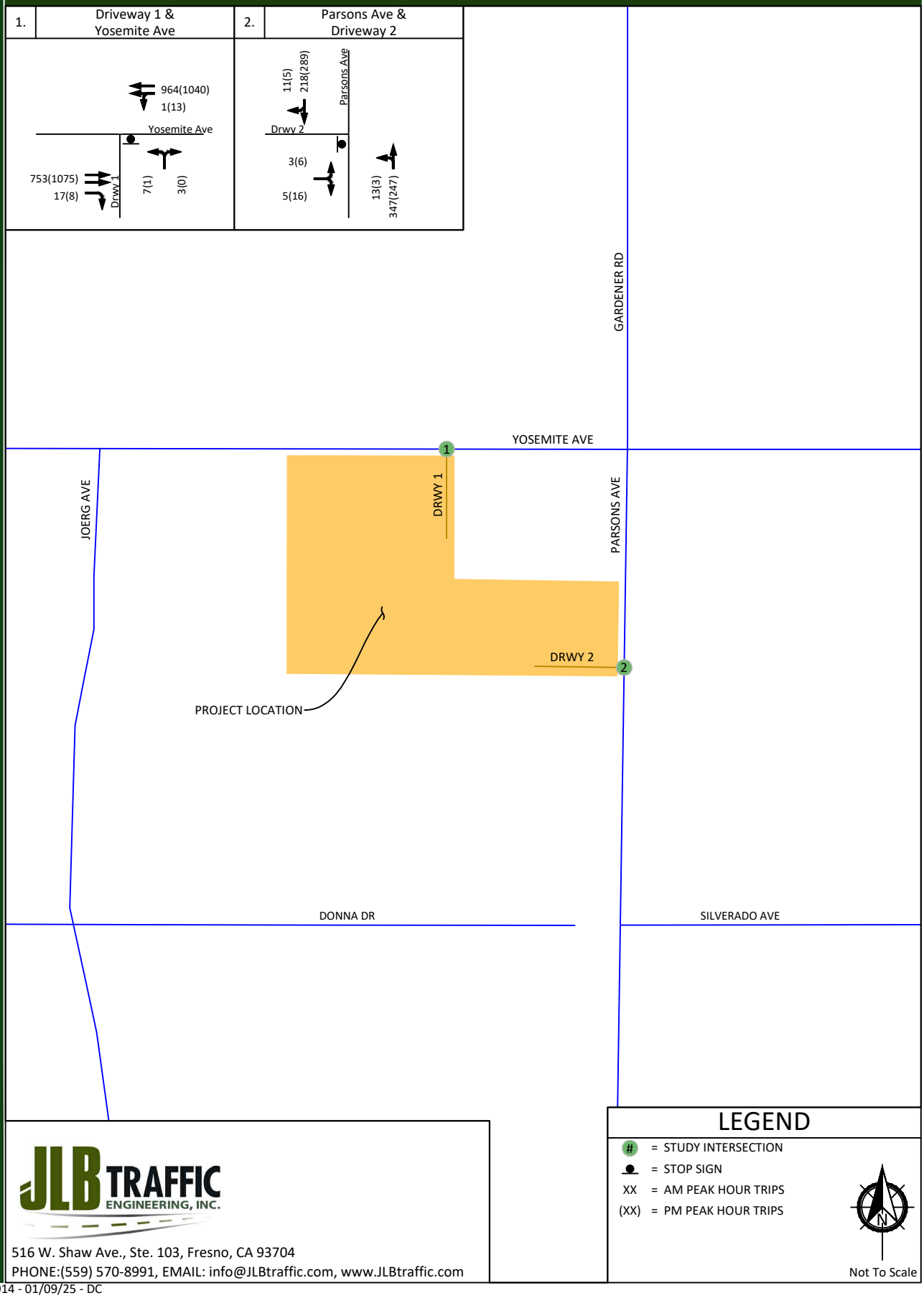
Yosemite Subdivision TIA - City of Merced
Cumulative Year 2046 No Project - Traffic Volumes, Geometrics and Controls

Figure 9



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Cumulative Year 2046 plus Project Traffic Conditions

Roadway Network

The Cumulative Year 2046 plus Project Traffic Conditions scenario assumes that the Cumulative Year 2046 No Project scenario's roadway geometrics and traffic controls will remain in place. However, the rerouted existing driveway volumes will need to be reconsidered since this scenario assumes buildout of the Project. Figure 10 illustrates the assumed intersection geometrics and traffic controls for the study intersections under this scenario.

Traffic Signal Warrants

Warrant 3 was prepared for the unsignalized intersections under the Cumulative Year 2046 plus Project Traffic Conditions scenario. These warrants are contained in Appendix J. Under this scenario, none of the intersections satisfy the peak hour signal warrant during either peak period.

Results of Cumulative Year 2046 plus Project Level of Service Analysis

Figure 10 illustrates the Cumulative Year 2046 plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2046 plus Project Traffic Conditions scenario are provided in Appendix I. Table VIII presents a summary of the Cumulative Year 2046 plus Project peak hour LOS at the study intersections.

Under this scenario, all study intersections are projected to operate within the City's established LOS thresholds. However, the intersection of Driveway 1 at Yosemite Avenue is projected to operate at LOS F during the PM peak period. It should be noted that the City made findings of overriding consideration to accept LOS F as the threshold for Yosemite Avenue between "R" Street and Parsons Avenue. As such, the LOS for Driveway 1 at Yosemite Avenue is considered adverse but not significant. Additionally, Driveway 1 at Yosemite Avenue has a minimal number of trips with only 5 trips exiting during the PM peak period. Furthermore, LOS is no longer the criteria of significance for traffic impacts in the State of California. Lastly, additional improvements to this intersection would lead to increased delays and congestion on Yosemite Avenue. As a result, we recommend that no improvements be made to the intersection of Driveway 1 at Yosemite Avenue as part of the Cumulative Year 2046 plus Project scenario.

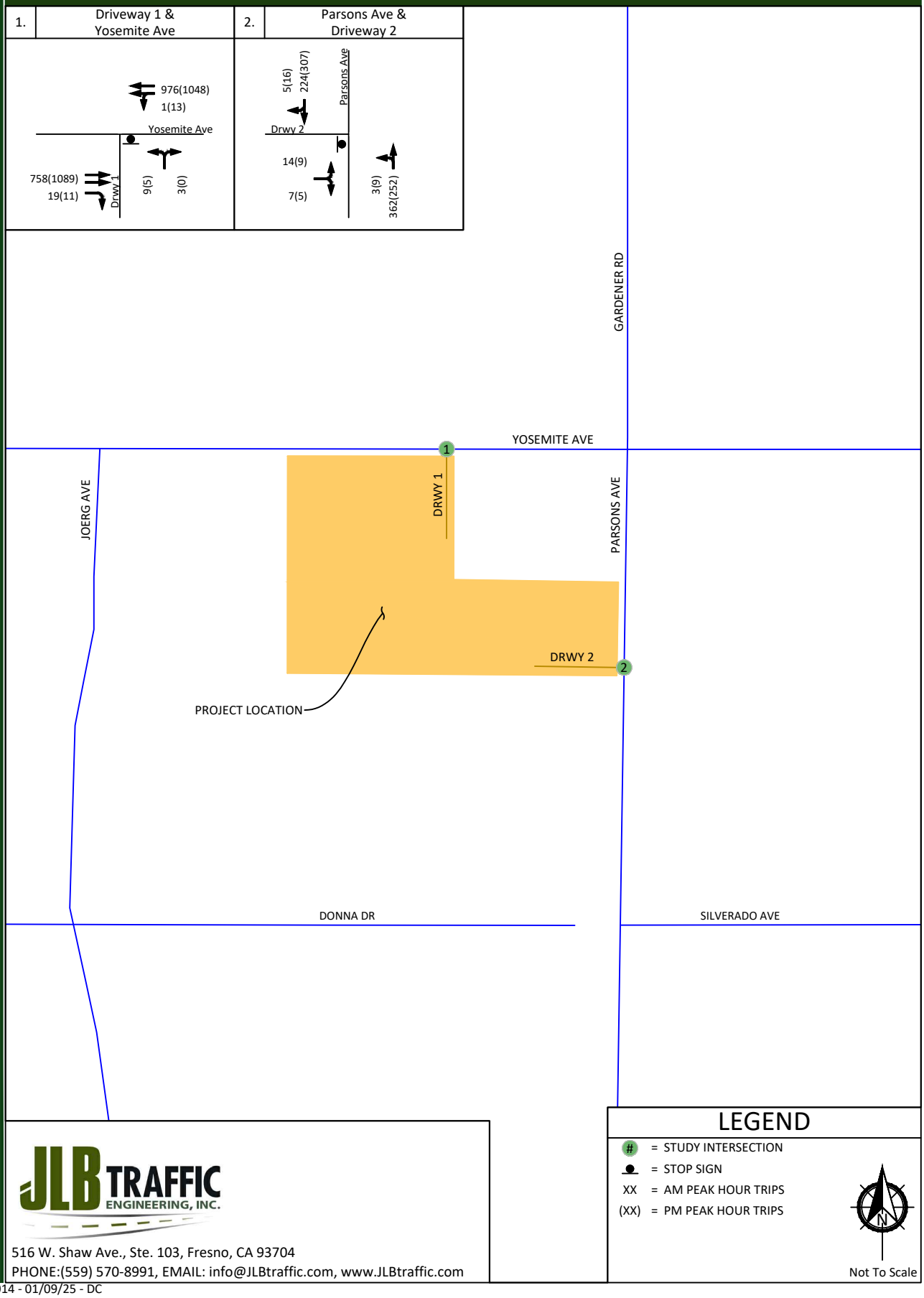
Table VIII: Cumulative Year 2046 plus Project Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM (7 - 9) Peak Hour*		*MD (4 - 6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Driveway 1 / Yosemite Avenue	One-Way Stop	27.1	D	55.9	F
2	Parsons Avenue / Driveway 2	One-Way Stop	12.3	B	12.2	B

Note: LOS for two-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Yosemite Subdivision TIA - City of Merced
Cumulative Year 2046 plus Project - Traffic Volumes, Geometrics and Controls

Figure 10



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Queuing Analysis

Table IX provides a queue length summary for left-turn and right-turn lanes at the study intersections under all study scenarios. The queuing analyses for the study intersections are contained in the LOS worksheets for the respective scenarios. Appendix D contains the methodologies used to evaluate these intersections. Queuing analyses were completed using SimTraffic output information. Synchro provides both 50th and 95th percentile maximum queue lengths (in feet). According to the Synchro manual, "the 50th percentile maximum queue is the maximum back of queue on a typical cycle and the 95th percentile queue is the maximum back of queue with 95th percentile volumes" (*Synchro Studio 10 User Guide* 2017). The queues shown in Table IX are the 95th percentile queue lengths for the respective lane movements.

The *California Highway Design Manual* (CA HDM) provides guidance for determining deceleration lengths for the left-turn and right-turn lanes based on design speeds. According to the CA HDM, tapers for right-turn lanes are "usually unnecessary since main line traffic need not be shifted laterally to provide space for the right-turn lane. If, in some rare instances, a lateral shift were needed, the approach taper would use the same formula as for a left-turn lane" (Caltrans 2019). Therefore, a bay taper length pursuant to the CA HDM would need to be added, as necessary, to the recommended storage lengths presented in Table IX.

The storage capacity for the Cumulative Year 2046 plus Project Traffic Conditions shall be based on the SimTraffic output files and engineering judgment. The values in bold presented in Table IX are the projected queue lengths that will likely need to be accommodated by the Cumulative Year 2046 plus Project Traffic Conditions scenario. At the remaining approaches of the study intersections, the existing storage capacity will be sufficient to accommodate the maximum queue.

Table IX: Queuing Analysis

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project		Near Term plus Project		Cumulative Year 2046 No Project		Cumulative Year 2046 plus Project	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Drwy 1 / Yosemite Avenue	Eastbound Through	>500	0	0	0	0	0	0	0	0	0	0
		Eastbound Right	100	0	0	0	0	0	0	0	0	0	0
		Westbound Left-Through	>500	0	26	0	23	0	0	0	22	0	0
		Westbound Through	>500	0	0	0	0	0	0	0	0	0	0
		Northbound Left-Right	>500	20	0	7	0	19	0	19	19	0	19
2	Parsons Avenue / Drwy 2	Eastbound Left-Right	>500	22	39	34	41	39	24	33	39	75	24
		Northbound Left-Through	>500	8	0	0	0	0	0	0	0	0	0
		Southbound Through-Right	>500	0	27	0	0	0	0	0	0	0	0

Note: All Queue lengths are in feet

Conclusions and Recommendations

Conclusions and recommendations regarding the proposed Project are presented below.

Existing Traffic Conditions

- At present, all study intersections operate at an acceptable LOS during both peak periods.

Existing plus Project Traffic Conditions

- The Project proposes to have two (2) access points along the west side of Parsons Avenue and one (1) access point along the south side of Yosemite Avenue. All three (3) access points will have full access.
- JLB analyzed the location of the existing and proposed roadways and access points. This review revealed that all access points are located at points that minimize traffic operational impacts to existing and future roadway networks.
- The surrounding Project site is well-developed with sidewalks providing good pedestrian facilities.
- The Project site is located near transit services and contains a class II bike lane along its frontage on Yosemite Avenue. Additionally, the City of Merced 2013 Bicycle Transportation Plan proposes to add a class II bike lane to Parsons Avenue. Therefore, it is recommended that the Project implement a Class II Bike Lane along its frontage to Parsons Avenue.
- At buildout, the proposed Project is estimated to generate approximately 496 daily trips, 36 AM peak hour trips and 50 PM peak hour trips.
- Under this scenario, all study intersections are projected to continue operating at an acceptable LOS during both peak periods.

Near Term plus Project Traffic Conditions

- The total trip generation for the Near Term Projects is 58,347 weekday daily trips, 3,339 weekday AM peak hour trips and 5,259 weekday PM peak hour trips.
- Under this scenario, all study intersections are projected to operate within the City's established LOS threshold. However, the intersection of Driveway 1 at Yosemite Avenue is projected to operate at LOS E during the PM peak period. It should be noted that the City made findings of overriding consideration to accept LOS F as the threshold for Yosemite Avenue between between "R" Street and Parsons Avenue. As such, the LOS for Driveway 1 at Yosemite Avenue us considered adverse but not significant. Additionally, Driveway 1 at Yosemite Avenue has a minimal number of trips with only 5 trips exiting during the PM peak period. Furthermore, LOS is no longer the criteria of significance for traffic impacts in the State of California. Lastly, additional improvements to this intersection would lead to increased delays and congestion on Yosemite Avenue. As a result, we recommend that no improvements be made to the intersection of Driveway 1 at Yosemite Avenue as part of the Near Term plus Project scenario.

Cumulative Year 2046 No Project Traffic Conditions

- Under this scenario, all study intersections are projected to operate within the City's established LOS threshold. However, the intersection of Driveway 1 at Yosemite Avenue is projected to operate at LOS F during the PM peak period. It should be noted that the City made findings of overriding consideration to accept LOS F as the threshold for Yosemite Avenue between "R" Street and Parsons Avenue. As such, the LOS for Driveway 1 at Yosemite Avenue is considered adverse but not significant. Additionally, Driveway 1 at Yosemite Avenue has a minimal number of trips with only 1 trip exiting during the PM peak period. Furthermore, LOS is no longer the criteria of significance for traffic impacts in the State of California. Lastly, additional improvements to this intersection would lead to increased delays and congestion on Yosemite Avenue. As a result, we recommend that no improvements be made to the intersection of Driveway 1 at Yosemite Avenue as part of the Cumulative Year 2046 No Project scenario.

Cumulative Year 2046 plus Project Traffic Conditions

- Under this scenario, all study intersections are projected to operate within the City's established LOS thresholds. However, the intersection of Driveway 1 at Yosemite Avenue is projected to operate at LOS F during the PM peak period. It should be noted that the City made findings of overriding consideration to accept LOS F as the threshold for Yosemite Avenue between "R" Street and Parsons Avenue. Additionally, Driveway 1 at Yosemite Avenue has a minimal number of trips with only 5 trips exiting during the PM peak period. Furthermore, LOS is no longer the criteria of significance for traffic impacts in the State of California. Lastly, additional improvements to this intersection would lead to increased delays and congestion on Yosemite Avenue. As a result, we recommend that no improvements be made to the intersection of Driveway 1 at Yosemite Avenue as part of the Cumulative Year 2046 plus Project scenario.

Study Participants

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Matthew Arndt, EIT	Engineer I/II
Adrian Benavides	Engineer I/II
Dennis Wynn	Sr. Engineering Technician
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Diana Cortes	Engineering Aide

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Yushin Imura, P.E.	YCG Civil Engineering
Kim Espinosa	City of Merced
Francisco Mendoza-Gonzalez	City of Merced

References

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Appendix A: Scope of Work

September 27, 2024

Kim Espinosa
Merced City of Merced
Planning and Zoning Department
678 West 18th Street
Merced, California, 95340

Via Email Only: espinosak@cityofmerced.org

Subject: ***Proposed Scope of Work for the Preparation of a Traffic Impact Analysis & Vehicle Miles Traveled Analysis for the Yosemite Subdivision in the City of Merced***

Dear Kim Espinosa,

JLB Traffic Engineering, Inc. (JLB) hereby submits this Draft Scope of Work for the preparation of a **Traffic Impact Analysis (TIA)** and **Vehicle Miles Traveled (VMT) Analysis** for the Yosemite Subdivision **(Project)** located on the southwest quadrant of Yosemite Avenue and Parsons Avenue in the City of Merced. The Project proposes the development of 41 single-family residential lots and approximately 75,360 square feet of Mini Storage. Based on information provided to JLB, the Project is not consistent with the *Merced Vision 2030 General Plan*. An aerial of the Project vicinity and Project Site Plan are shown in Exhibits A and B, respectively.

The purpose of the TIA and VMT analyses are to evaluate the potential on-site and off-site traffic impacts, identify roadway and circulation needs, determine potential mitigation measures and identify any critical traffic issues that should be addressed in the on-going planning process. JLB proposes the following Scope of Work to evaluate the on-site and off-site traffic impacts of the proposed Project.

Scope of Work

- JLB will obtain recent or schedule and conduct new traffic counts at the study facility(ies) as necessary. These counts will include pedestrians and vehicles.
- JLB will request a Merced County Association of Governments (MCAG) model runs for the Base Year 2023 and Cumulative Year 2046 scenarios will be used to forecast volumes into the cumulative year scenarios.
- JLB will perform a site visit to observe existing traffic conditions, especially during the AM and PM peak hours. Existing roadway conditions, including intersection geometrics and traffic controls will be verified.
- JLB will evaluate on-site circulation and provide recommendations as necessary to improve circulation to and within the Project site. Particular attention will be paid to conflicting traffic movements, location of local roadways to major streets, and onsite vehicular ingress and egress routes.
- JLB will prepare CA MUTCD Warrant 3 “Peak Hour” for unsignalized study intersections under all study scenarios.

- JLB will qualitatively analyze existing and planned transit routes in the vicinity of the Project.
- JLB will qualitatively analyze existing and planned bikeways in the vicinity of the Project.
- JLB will forecast trip distribution based on turn count information as well as knowledge of the existing and planned circulation network in the vicinity of the Project. The Project Trip Distribution is shown in Exhibit C.
- JLB will evaluate existing and forecasted levels of service (LOS) at the study intersection(s). JLB will use HCM 7th or HCM 2000 methodologies (as appropriate) within Synchro to perform this analysis for the AM and PM peak hours. JLB will identify the causes of poor LOS.
- JLB will prepare Project's VMT based on guidelines within Merced County Association of Governments *VMT Thresholds and Implementation Guidelines*.

Study Scenarios

1. Existing Traffic Conditions with needed improvements (if any);
2. Existing plus Project Traffic Conditions with proposed improvement measures (if any);
3. Near Term plus Project Traffic Conditions with proposed improvement measures (if any);
4. Cumulative Year 2046 No Project Traffic Conditions with proposed improvements (if any); and
5. Cumulative Year 2046 plus Project Traffic Conditions with proposed improvement measures (if any).

Weekday peak hours to be analyzed (Tuesday, Wednesday, or Thursday only)

1. 7 - 9 AM peak hour
2. 4 - 6 PM peak hour

Study Intersections

1. Project Driveway 1 at Yosemite Avenue
2. Parsons Avenue at Project Driveway 2

Queuing analysis is included in the proposed Scope of Work for the study intersection(s) listed above under all study scenarios. This analysis will be utilized to recommend minimum storage lengths for left-turn and right-turn lanes at all study intersections.

Trip Generation

The trip generation rates for the proposed Project were obtained from the 11th Edition of the *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE). Table I presents the trip generation rates for the proposed Project with trip generations for Mini-Warehouse (151) and Single-Family Detached Housing (210). At buildout, the Project is estimated to generate approximately 496 daily trips, 36 AM peak hour trips and 50 PM peak hour trips.

Table I: Project Trip Generation

Land Use (ITE Code)	*Size*	*Unit*	*Daily*		*AM Peak Hour*						*PM Peak Hour*					
			Rate	*Total*	*Trip Rate*	*In* %	*Out* %	*In*	*Out*	*Total*	*Trip Rate*	*In* %	*Out* %	*In*	*Out*	*Total*
Mini-Warehouse (210)	75	k.s.f.	1.45	109	0.09	59	41	4	3	7	0.15	47	53	5	6	11
Single-Family Detached Housing (210)	41	d.u.	9.43	387	0.70	26	74	8	21	29	0.94	63	37	25	14	39
Total Driveway Trips				**496**				**12**	**24**	**36**				**30**	**20**	**50**

Note: k.s.f. = Thousand Square Feet
d.u. = Dwelling Units

Access to the Project

Access to and from the Project site will primarily be from two (2) existing access points and one (1) new access point. The first existing access point is located along the south side of Yosemite Avenue approximately 450 feet west of Parsons Avenue. This existing access point has full access. The second existing access point is located along the west side of Parsons Avenue approximately 550 feet south of Yosemite Avenue. This existing access point will be modified to a private access point to be used solely by the subdivision and it will retain full access. Furthermore, a new access point, which will serve the existing office complex located at the southeast corner of Yosemite Avenue and Parsons Avenue, is proposed along the west side of Parsons Avenue approximately 350 feet south of Yosemite Avenue. This access is proposed to have full access.

Near Term Projects to be Included

Based on our local knowledge of the study area, JLB proposes to include near term projects in the vicinity of the proposed Project under the Near Term plus Project scenario. The near term project proposed to be included in the Near Term scenario are the following.

Project Name	General Location
1. Bellevue Ranch 2, Phases 3 & 4	NWQ G St and Bellevue Rd
2. Bellevue Ranch North, Village 23	NWQ G St and Bellevue Rd
3. Bellevue Ranch West, Villages 17 & 18 (portion of)	SWC M St and Bellevue Rd
4. Bianchi/Norcal Cajun Annexation	NWQ State Route 59 and Sante Fe Dr
5. Bright Development	NEQ G St and Cardella Rd
6. Cottages at El Redondo (portion of)	NEC San Augustine Ave and Yosemite Ave
7. Crest View (portion of)	NWC El Redondo Dr and Monaco Dr
8. G St & Yosemite Ave Mixed-Use (portion of)	NEC G St and Yosemite Ave
9. Merced Gateway Center (portion of)	SEC Coffee St and Gerard Ave
10. Merced Mall Expansion	NWC R St and Olive Ave
11. Northview Medical Offices	SEC G St and Mercy Ave
12. Pro-Lube/ Car Wash/Sandwich Shop	NEC G St and 23rd St
13. Regency Court Apartments	NEQ G St and Cardella Rd
14. Salazar	SWQ Coffee St and Childs Ave
15. Summer Field	SWQ Coffee St and Childs Ave
16. Terrazzo	NEC Horizon Ave and Lehigh Dr
17. The Crossing at River Oaks	SEQ Coffee St and Childs Ave
18. University Village Merced Annexation	NEC Parsons Ave and Yosemite Ave
19. Yosemite & McKee Commercial Center	McKee Rd and Yosemite Ave

Other Near Term Projects the City of Merced or County of Merced have knowledge and for which it is anticipated that said project(s) is/are projected to be whole or partially built by the Near Term project Year 2030 can be added. The City of Merced and County of Merced, as appropriate, would provide JLB with project detail such as a project description, location and proposed land uses with breakdowns of the square footage or dwelling units.

The Scope of Work is based on our understanding of this Project and our experience with similar TIAs. JLB hereby requests written comments (letter or email) to the above scope of work preferably by October 16, 2024. In the absence of comments by October 16, 2024, it will be assumed that the Scope of Work is acceptable to the agency(ies) that have not submitted any comments. If you have any questions, require additional information, or need additional time to review the above Draft Scope of Work please contact me by phone at (559) 317-6243, or via email at marndt@JLBtraffic.com.

Sincerely,

Matthew Arndt
Engineer I/II

cc: Brian Guerrero, County of Merced
Hilda Sousa, Caltrans District 10
Tom Dumas, Caltrans District 10
Jose Benavides, JLB Traffic Engineering, Inc.

JLB TRAFFIC ENGINEERING, INC.
www.JLBtraffic.com
info@JLBtraffic.com
516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

Exhibit A – Aerial

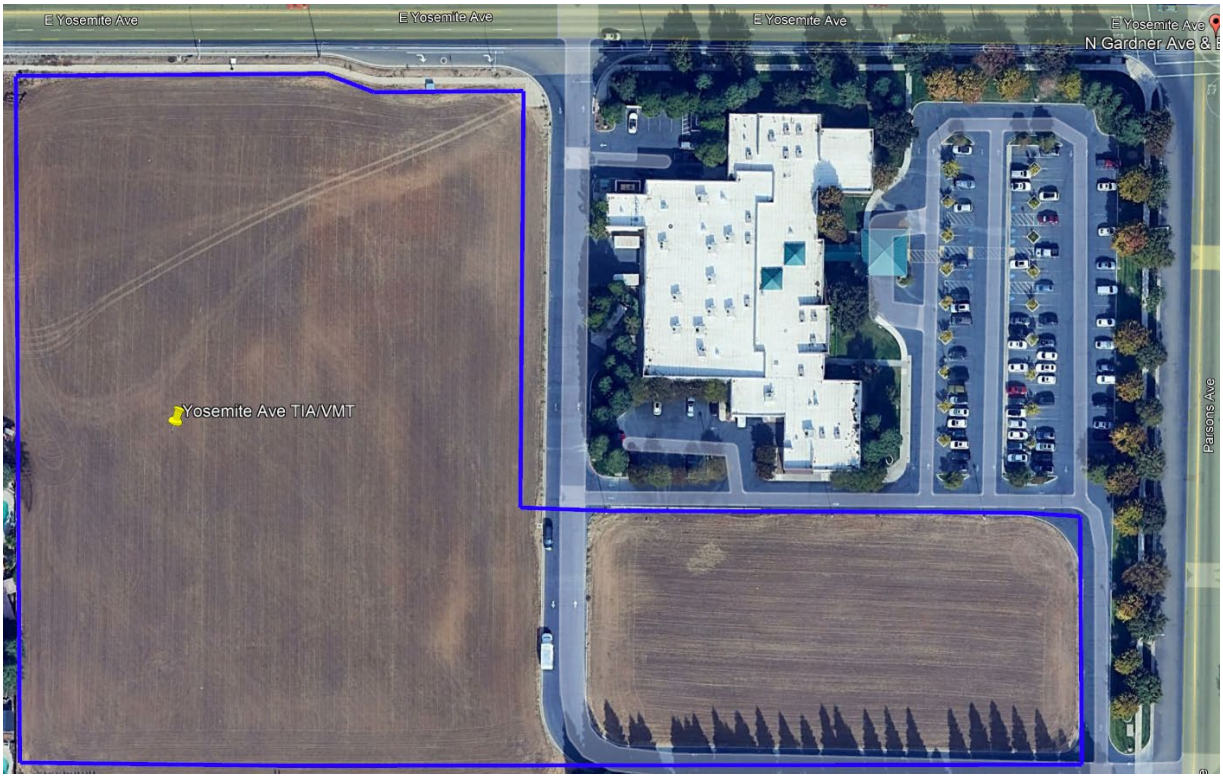
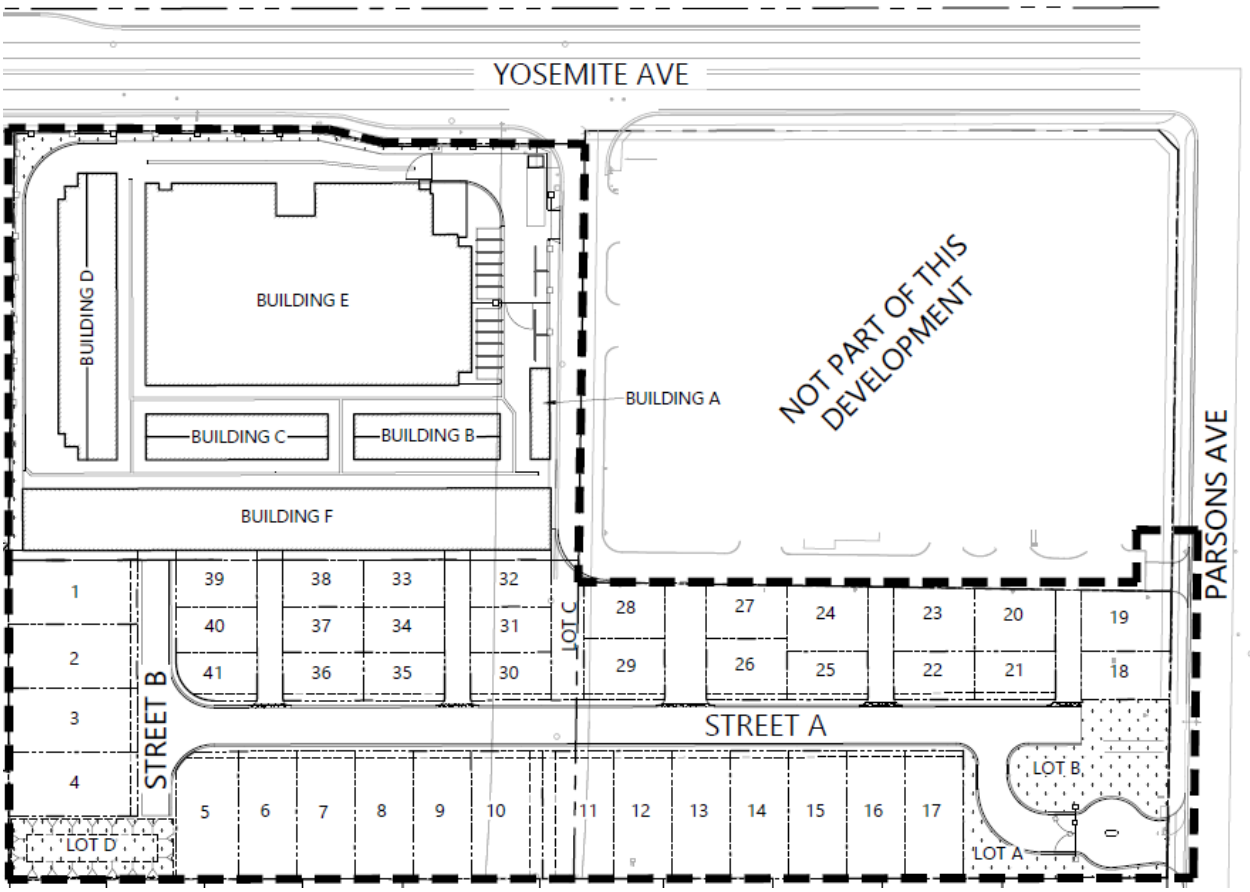
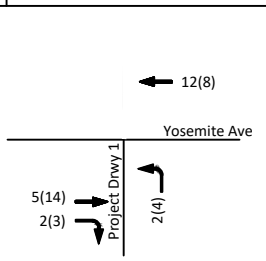
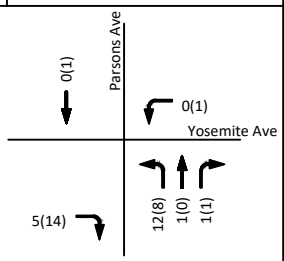
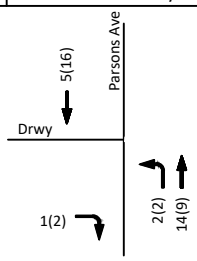
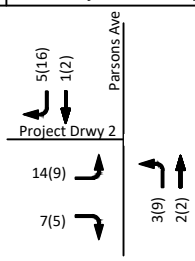


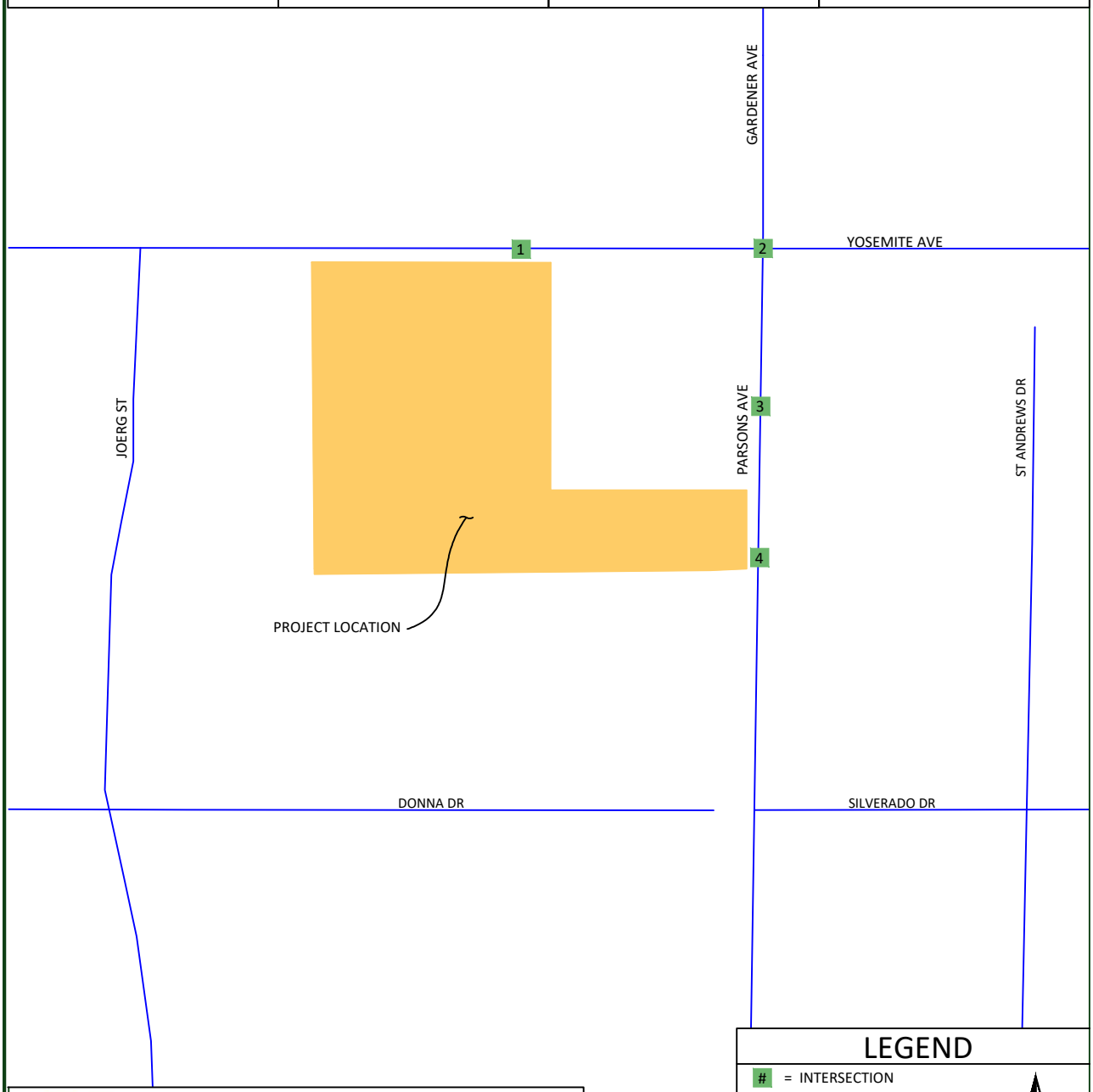
Exhibit B – Project Site Plan



Yosemite Subdivision TIA & VMT - City of Merced
Project Trip Distribution

Exhibit C

1. Project Driveway 1 & Yosemite Avenue	2. Yosemite Avenue & Parsons Avenue	3. Parsons Avenue & Driveway	4. Parsons Avenue & Project Driveway 2
			



LEGEND

= INTERSECTION

N

Not To Scale

JLB TRAFFIC ENGINEERING, INC.
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

Matt Arndt

From: Mendoza-Gonzalez, Francisco <MendozaF@cityofmerced.org>
Sent: Monday, November 4, 2024 2:00 PM
To: Eric Gonsalves; Renteria, Valeria; Austin Bondy-Villa
Cc: Yushin Imura; Cardoso, Joe; Maddox, Richard
Subject: RE: Yosemite & Parsons Development - TIA Scope of Work

Hi Eric,

City staff is fine with the proposed scope….

Thanks,

Francisco Mendoza-Gonzalez
Senior Planner, Planning Dept.
City of Merced – 678 W. 18th St.
Direct: (209) 385-6929
Dept: (209)385-6858
Front Counter Hours (M-F):
9 a.m. -12 p.m. & 1 p.m. -5 p.m.

From: Eric Gonsalves <eric@cirruscompany.com>
Sent: Monday, November 04, 2024 1:50 PM
To: Mendoza-Gonzalez, Francisco <MendozaF@cityofmerced.org>; Renteria, Valeria <RenteriaV@cityofmerced.org>; Austin Bondy-Villa <Austin@ycg.io>
Cc: Yushin Imura <Yushin@ycg.io>; Cardoso, Joe <CardosoJ@cityofmerced.org>; Maddox, Richard <MaddoxR@cityofmerced.org>
Subject: Re: Yosemite & Parsons Development - TIA Scope of Work

Hi Francisco & Valeria,

I have not heard anything back regarding the scope. Can you please let me know if we can start, our consultant won't start without the city letting us know that the scope was acceptable. The project is occuring delays and we need to move it forward.

Thank you,

Eric Gonsalves
Senior Vice President of Development

The Cirrus Company
C: 209-480-0585
E: eric@cirruscompany.com

From: Eric Gonsalves <eric@cirruscompany.com>
Date: Thursday, October 31, 2024 at 10:58 AM
To: Mendoza-Gonzalez, Francisco <MendozaF@cityofmerced.org>, Renteria, Valeria

<RenteriaV@cityofmerced.org>, Austin Bondy-Villa <Austin@ycg.io>
Cc: Yushin Imura <Yushin@ycg.io>, Cardoso, Joe <CardosoJ@cityofmerced.org>, Maddox, Richard <MaddoxR@cityofmerced.org>
Subject: Re: Yosemite & Parsons Development - TIA Scope of Work

Thank you Francisco. We are looking to authorize work to start on Monday so any feedback would be greatly appreciated.

Thank you,

Eric Gonsalves
Senior Vice President of Development

The Cirrus Company
C: 209-480-0585
E: eric@cirruscompany.com

From: Mendoza-Gonzalez, Francisco <MendozaF@cityofmerced.org>
Date: Tuesday, October 29, 2024 at 11:01 AM
To: Eric Gonsalves <eric@cirruscompany.com>, Renteria, Valeria <RenteriaV@cityofmerced.org>, Austin Bondy-Villa <Austin@ycg.io>
Cc: Yushin Imura <Yushin@ycg.io>, Cardoso, Joe <CardosoJ@cityofmerced.org>, Maddox, Richard <MaddoxR@cityofmerced.org>
Subject: RE: Yosemite & Parsons Development - TIA Scope of Work

Hi Eric, the project Planner is currently out sick….

I'm CC'ing our Engineering staff to see if they have any updates. Joe or Rick, let me know if you have any questions. This is regarding GPA #24-02 near SWC of Yosemite Ave & Gardner Road – for new self-storage & a new gated subdivision. Let us know if the Scope of Work sent to you by Valeria is OK.

Francisco Mendoza-Gonzalez
Senior Planner, Planning Dept.
City of Merced – 678 W. 18th St.
Direct: (209) 385-6929
Dept: (209)385-6858
Front Counter Hours (M-F):
9 a.m. -12 p.m. & 1 p.m. -5 p.m.

From: Eric Gonsalves <eric@cirruscompany.com>
Sent: Tuesday, October 29, 2024 9:29 AM
To: Renteria, Valeria <RenteriaV@cityofmerced.org>; Austin Bondy-Villa <Austin@ycg.io>; Mendoza-Gonzalez, Francisco <MendozaF@cityofmerced.org>
Cc: Yushin Imura <Yushin@ycg.io>
Subject: Re: Yosemite & Parsons Development - TIA Scope of Work

We need to move forward with the traffic scope for Yosemite & Parsons, please let me know if it has been reviewed.

Thank you,

Eric Gonsalves
Senior Vice President of Development

The Cirrus Company
C: 209-480-0585
E: eric@cirruscompany.com

From: Renteria, Valeria <RenteriaV@cityofmerced.org>
Date: Wednesday, October 16, 2024 at 1:26 PM
To: Eric Gonsalves <eric@cirruscompany.com>, Austin Bondy-Villa <Austin@ycg.io>, Mendoza-Gonzalez, Francisco <MendozaF@cityofmerced.org>
Cc: Yushin Imura <Yushin@ycg.io>
Subject: RE: Yosemite & Parsons Development - TIA Scope of Work

Hello Eric,

I have not received a response from our Engineering team. I will follow up with them and let you know of their response.

Thanks,

Valeria Renteria
Associate Planner
City of Merced | 678 W. 18th Street | Merced, CA 95340
(209) 385-6858 (Office) | (209) 385-6967 (Direct)
RenteriaV@cityofmerced.org | www.cityofmerced.org

From: Eric Gonsalves <eric@cirruscompany.com>
Sent: Wednesday, October 16, 2024 10:55 AM
To: Renteria, Valeria <RenteriaV@cityofmerced.org>; Austin Bondy-Villa <Austin@ycg.io>; Mendoza-Gonzalez, Francisco <MendozaF@cityofmerced.org>
Cc: Yushin Imura <Yushin@ycg.io>
Subject: Re: Yosemite & Parsons Development - TIA Scope of Work

If there are no comments to our traffic analysis scope then we will start work on it next week.

Thank you,

Eric Gonsalves
Senior Vice President of Development

The Cirrus Company
C: 209-480-0585
E: eric@cirruscompany.com

From: Eric Gonsalves <eric@cirruscompany.com>
Date: Tuesday, October 15, 2024 at 9:48 AM
To: Renteria, Valeria <RenteriaV@cityofmerced.org>, Austin Bondy-Villa <Austin@ycg.io>, Mendoza-Gonzalez, Francisco <MendozaF@cityofmerced.org>
Cc: Yushin Imura <Yushin@ycg.io>
Subject: Re: Yosemite & Parsons Development - TIA Scope of Work

Hi Valeria,

We would like to move forward with the traffic study scope, can you provide an update for us on this and if we can move forward.

Thank you,

Eric Gonsalves
Senior Vice President of Development

The Cirrus Company
C: 209-480-0585
E: eric@cirruscompany.com

From: Renteria, Valeria <RenteriaV@cityofmerced.org>
Date: Monday, October 7, 2024 at 5:00 PM
To: Austin Bondy-Villa <Austin@ycg.io>, Mendoza-Gonzalez, Francisco <MendozaF@cityofmerced.org>
Cc: Eric Gonsalves <eric@cirruscompany.com>, Yushin Imura <Yushin@ycg.io>
Subject: RE: Yosemite & Parsons Development - TIA Scope of Work

Hello Austin,

I sent the traffic study scope to our engineering department last week, once we receive any comments, we will let you and your team know. The project has also been scheduled for a Development Review Meeting this Thursday October 10 at 2PM at the Planning Conference Room located on the second floor of 678 W 18th Street.

Please let me know if you have any questions.

Thanks,

Valeria Renteria
Associate Planner
City of Merced | 678 W. 18th Street | Merced, CA 95340
(209) 385-6858 (Office) | (209) 385-6967 (Direct)
RenteriaV@cityofmerced.org | www.cityofmerced.org

From: Austin Bondy-Villa <Austin@ycg.io>
Sent: Monday, October 7, 2024 2:20 PM
To: Mendoza-Gonzalez, Francisco <MendozaF@cityofmerced.org>
Cc: Eric Gonsalves <eric@cirruscompany.com>; Yushin Imura <Yushin@ycg.io>; Renteria, Valeria

<RenteriaV@cityofmerced.org>
Subject: RE: Yosemite & Parsons Development - TIA Scope of Work

Good afternoon Francisco,

Just wanted to follow up to see how the review is going – are you able to provide an ETA for when we'll get comments/approval on the traffic study scope?

Thank you,

Austin Bondy-Villa
Project Engineer
YCG Civil Engineering
209-338-8258|austin@ycg.io
www.ycg.io

From: Mendoza-Gonzalez, Francisco <MendozaF@cityofmerced.org>
Sent: Monday, September 30, 2024 1:40 PM
To: Austin Bondy-Villa <Austin@ycg.io>
Cc: Eric Gonsalves <eric@cirruscompany.com>; Yushin Imura <Yushin@ycg.io>; Renteria, Valeria <RenteriaV@cityofmerced.org>
Subject: RE: Yosemite & Parsons Development - TIA Scope of Work

Hi Austin,

Thank you for reaching-out to us. I am CC'ing the project Planner Valeria Renteria. We will review the scope of work then get back to you.

Much appreciated,

Francisco Mendoza-Gonzalez
Senior Planner, Planning Dept.
City of Merced – 678 W. 18th St.
Direct: (209) 385-6929
Dept: (209)385-6858
Front Counter Hours (M-F):
9 a.m. -12 p.m. & 1 p.m. -5 p.m.

From: Austin Bondy-Villa <Austin@ycg.io>
Sent: Monday, September 30, 2024 10:54 AM
To: Mendoza-Gonzalez, Francisco <MendozaF@cityofmerced.org>
Cc: Eric Gonsalves <eric@cirruscompany.com>; Yushin Imura <Yushin@ycg.io>
Subject: Yosemite & Parsons Development - TIA Scope of Work

Francisco,

We're working with Eric Gonsalves on the new development at the southwest corner of Yosemite and Parsons in Merced. The project traffic engineer has prepared a draft scope of work for City review before they proceed with the full traffic impact analysis – see attached. Please let me know if the City needs anything else to review this scope so we can proceed with the TIA.

Thank you,

Austin Bondy-Villa
Project Engineer
209.338.8258 | austin@ycg.io
www.ycg.io
CALIFORNIA | OREGON | WASHINGTON

[**NOTICE:** This message originated outside of City of Merced -- **DO NOT CLICK** on **links** or open **attachments** unless you are sure the content is safe.]

City of Merced records, including emails, are subject to the California Public Records Act. Unless exemptions apply, this email, any attachments and any replies are subject to disclosure on request, and neither the sender nor any recipients should have any expectation of privacy regarding the contents of such communications. The City of Merced shall not be responsible for any claims, losses or damages resulting from the use of digital data that may be contained in this email.

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Appendix B: Traffic Counts

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

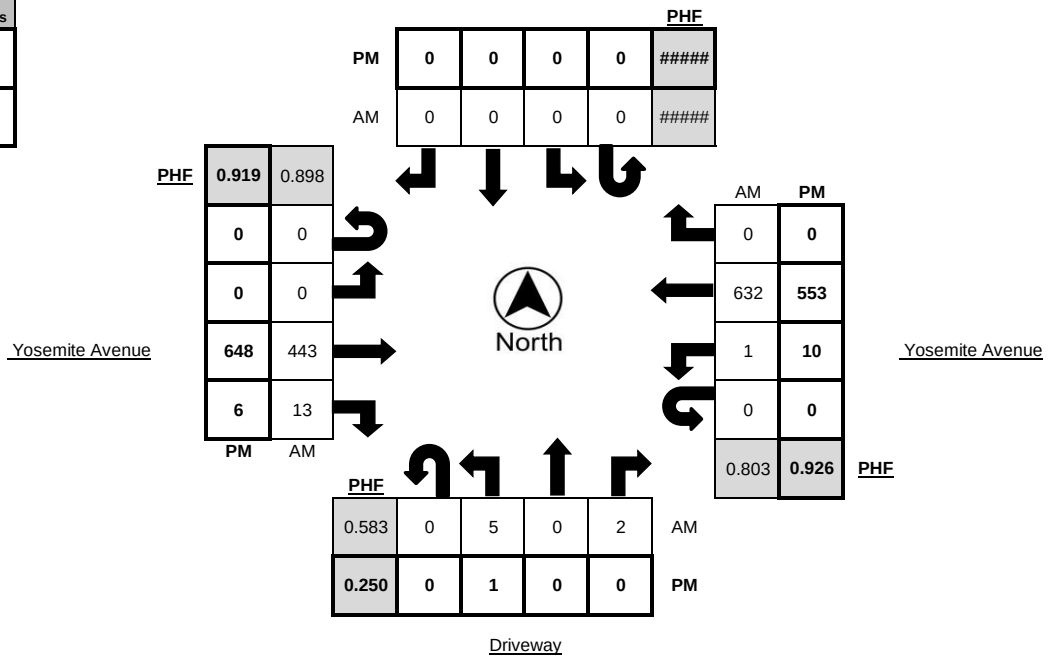
LOCATION Driveway / Yosemite Avenue
LATITUDE 37.3320
COUNTY Merced
LONGITUDE -120.4527
COLLECTION DATE Tuesday, November 19, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	52	1	3	0	0	75	0	1
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	87	2	3	0	0	91	0	3
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	103	2	4	0	0	136	0	4
7:45 AM - 8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	94	4	4	0	0	197	0	0
8:00 AM - 8:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	119	5	1	0	0	152	0	1
8:15 AM - 8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	104	3	0	0	1	141	0	4
8:30 AM - 8:45 AM	0	2	0	1	0	0	0	0	0	0	0	0	126	1	2	0	0	142	0	5
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	89	7	3	0	0	130	0	4
TOTAL	**0**	**5**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**774**	**25**	**20**	**0**	**1**	**1064**	**0**	**22**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	190	5	5	0	0	119	0	1
4:15 PM - 4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	133	2	1	0	0	146	0	2
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	170	1	3	0	1	134	0	3
4:45 PM - 5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	144	2	2	0	0	152	0	2
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	176	2	1	0	9	133	0	2
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	158	1	3	0	0	134	0	0
5:30 PM - 5:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	155	1	1	0	0	137	0	3
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	119	0	2	0	0	142	0	1
TOTAL	**0**	**4**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1245**	**14**	**18**	**0**	**10**	**1097**	**0**	**14**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:45 AM - 8:45 AM	0	5	0	2	0	0	0	0	0	0	0	0	443	13	7	0	1	632	0	10
4:30 PM - 5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	648	6	9	0	10	553	0	7

	PHF	Trucks
AM	0.926	1.6%
PM	0.952	1.3%



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Turning Movement Report

Prepared For:
JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

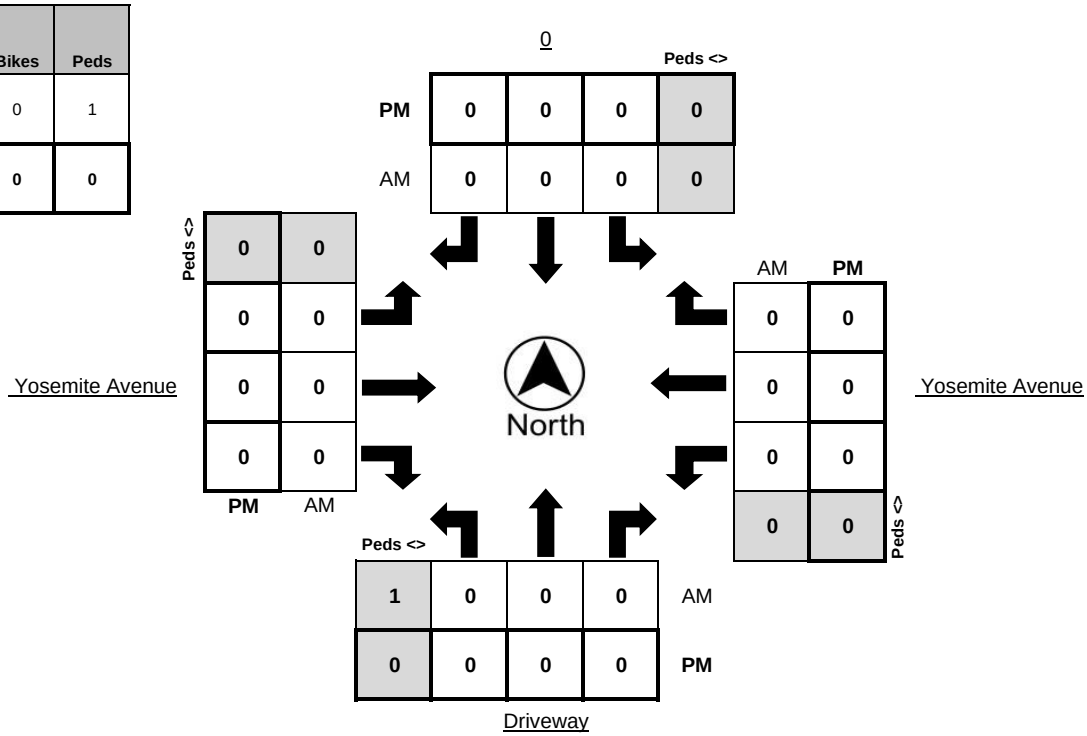
LOCATION Driveway / Yosemite Avenue
LATITUDE 37.3320
COUNTY Fresno
LONGITUDE -120.4527
COLLECTION DATE Tuesday, November 19, 2024
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:45 AM - 8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	1
PM Peak Total	0	0



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Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

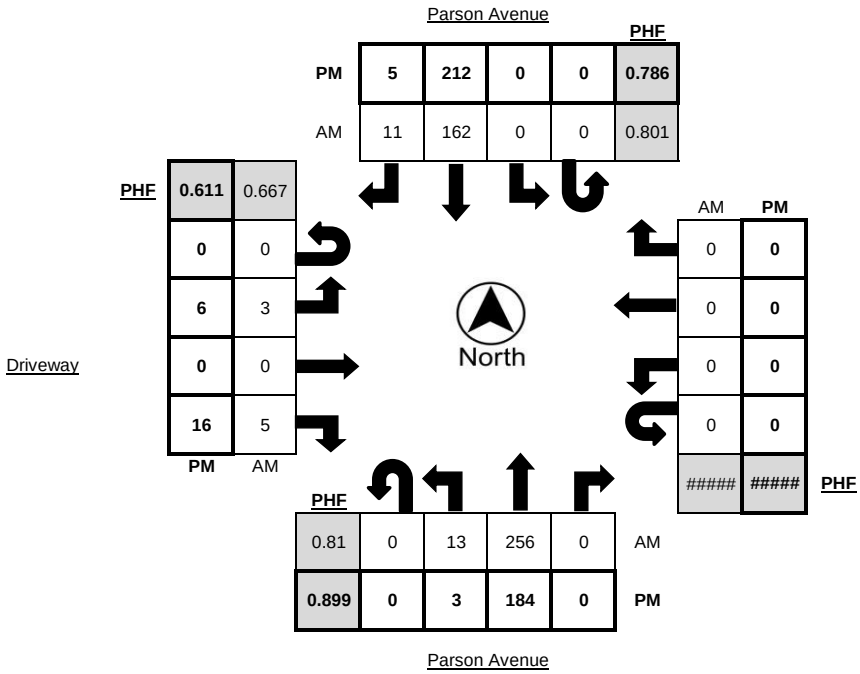
LOCATION Parsons Avenue / Driveway
LATITUDE 37.3305
COUNTY Merced
LONGITUDE -120.4512
COLLECTION DATE Tuesday, November 19, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	2	16	0	0	0	0	14	0	0	0	1	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	2	23	0	0	0	0	23	1	1	0	1	0	1	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	6	37	0	0	0	0	35	2	1	0	0	0	3	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	5	67	0	0	0	0	34	2	0	0	0	0	1	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	1	60	0	0	0	0	40	1	1	0	1	0	1	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	3	80	0	2	0	0	50	4	0	0	0	0	2	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	4	49	0	2	0	0	38	4	0	0	2	0	1	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	5	44	0	0	0	0	25	0	0	0	1	0	3	0	0	0	0	0	0
TOTAL	**0**	**28**	**376**	**0**	**4**	**0**	**0**	**259**	**14**	**3**	**0**	**6**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	3	48	0	0	0	0	46	2	0	0	3	0	7	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	1	48	0	0	0	0	50	1	1	0	0	0	4	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	1	38	0	0	0	0	67	2	2	0	2	0	1	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	47	0	1	0	0	45	2	0	0	1	0	5	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	1	51	0	0	0	0	50	0	1	0	3	0	6	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	42	0	0	0	0	47	1	0	0	2	0	2	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	36	0	0	0	0	52	0	0	0	8	0	1	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	43	0	0	0	0	33	0	0	0	1	0	2	0	0	0	0	0	0
TOTAL	**0**	**6**	**353**	**0**	**1**	**0**	**0**	**390**	**8**	**4**	**0**	**20**	**0**	**28**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:45 AM - 8:45 AM	0	13	256	0	4	0	0	162	11	1	0	3	0	5	0	0	0	0	0	0
4:15 PM - 5:15 PM	0	3	184	0	1	0	0	212	5	4	0	6	0	16	0	0	0	0	0	0

	PHF	Trucks
AM	0.809	1.1%
PM	0.959	1.2%



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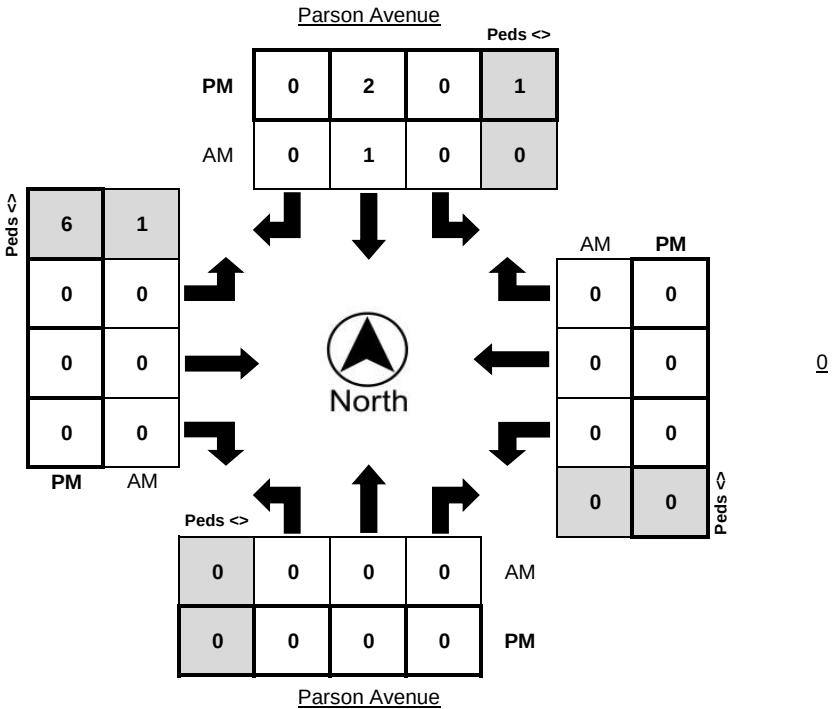
LOCATION Parsons Avenue / Driveway
LATITUDE 37.3305
COUNTY Merced
LONGITUDE -120.4512
COLLECTION DATE Tuesday, November 19, 2024
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM - 8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**

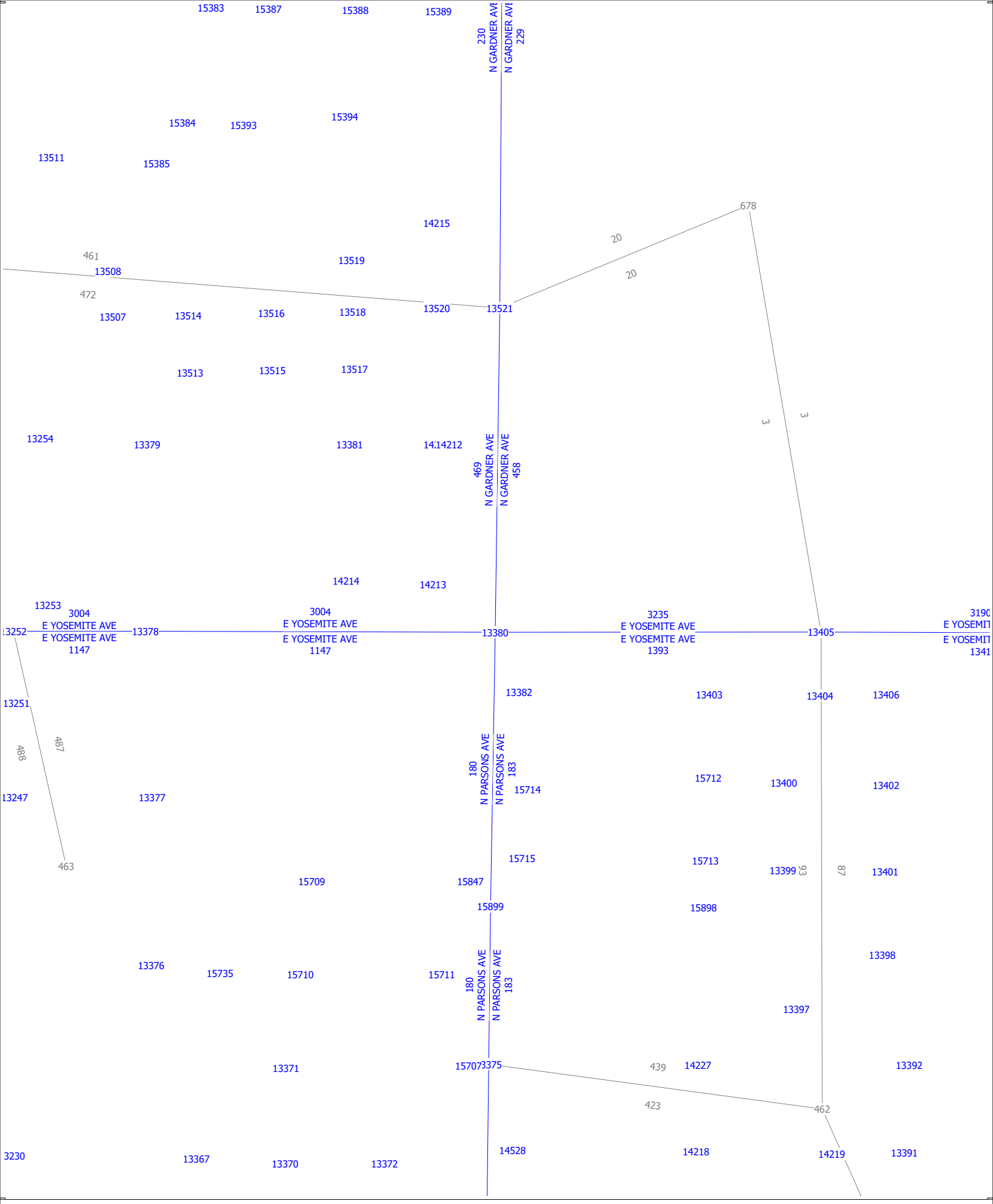
	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM - 4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:45 AM - 8:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
4:15 PM - 5:15 PM	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	6

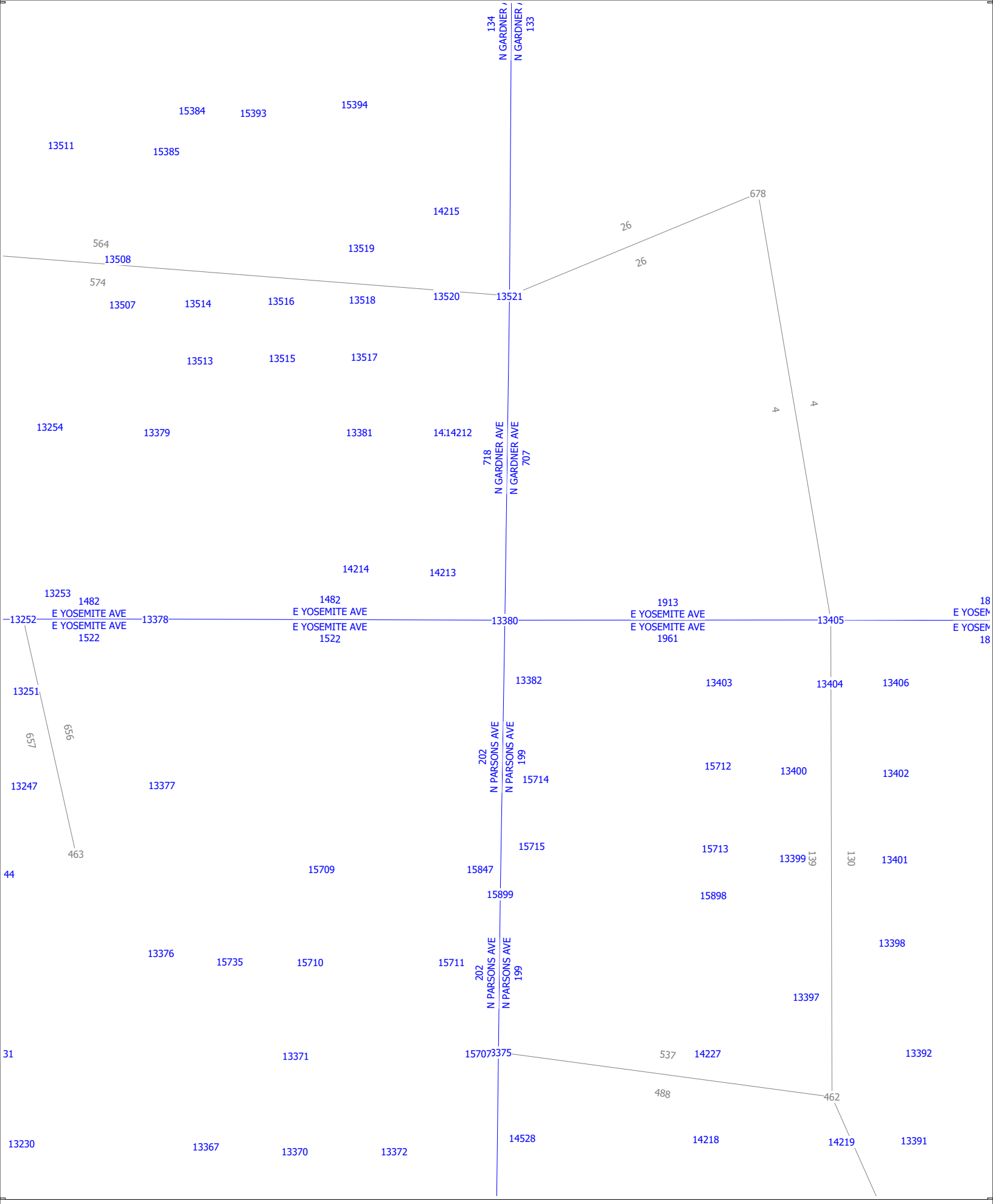
	Bikes	Peds
AM Peak Total	1	1
PM Peak Total	2	7



Appendix C: Traffic Modeling



Yosemite TIA
Base Year 2024
Daily Volumes



Yosemite TIA
Cumulative Year 2046
Daily Volumes

Appendix D: Methodology

Levels of Service Methodology

The description and procedures for calculating capacity and level of service (LOS) are found in the Transportation Research Board, Highway Capacity Manual (HCM). The HCM 7th Edition represents the research on capacity and quality of service for transportation facilities.

Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. Level of service is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience.

Six levels of service are defined for each type of facility that has analysis procedures available. Letters designate each level of service (LOS), from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each LOS represents a range of operating conditions and the driver's perception of these conditions. Safety is not included in the measures that establish an LOS.

Intersection Levels of Service

One of the more important elements limiting and often interrupting the flow of traffic on a highway is the intersection. Flow on an interrupted facility is usually dominated by points of fixed operation such as traffic signals, stop signs and yield signs.

Signalized Intersections

LOS can be characterized for the entire intersection, each intersection approach and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a surrogate measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group. A description of LOS for signalized intersections is found in Table A-1.

Table 1: Signalized Intersection LOS Description (Motorized Vehicle Mode)

Level of Service	*Description*	*Average Control Delay (Seconds per Vehicle)*
A	Operations with a control delay of 10 seconds/vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is really low and either progression is exceptionally favorable or the cycle length is very short. If it's due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Operations with control delay between 10.1 to 20.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.	>10.0 to 20.0
C	Operations with average control delays between 20.1 to 35.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio no greater than 1.0, the progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 to 35
D	Operations with control delay between 35.1 to 55.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	>35 to 55
E	Operations with control delay between 55.1 to 80.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable and the cycle length is long. Individual cycle failures are frequent.	>55 to 80
F	Operations with unacceptable control delay exceeding 80.0 seconds/vehicle and a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor and the cycle length is long. Most cycles fail to clear the queue.	>80

Note: Source: Highway Capacity Manual 7th Edition

All-Way Stop Controlled Intersections

All-way stop controlled intersections are common in the United States. They are characterized by having all approaches controlled by stop sign without any street having priority. Streets intersecting at all-way stop controlled intersections can be public or private. The intersection analysis boundaries for an all-way stop controlled intersection are assumed to be those of an isolated intersection, no upstream or downstream effects are accounted for in analysis.

Two-Way Stop Controlled Intersections

Two-way stop controlled (TWSC) intersections are also common in the United States. A typical configuration is a four-leg intersection in which one street, the major street, is uncontrolled and the other street, the minor street, is controlled by stop signs. The other typical intersection is a three-leg intersection in which a single minor street approach is controlled by a stop sign.

For the analysis of the motorized vehicle mode, the methodology addresses special circumstances that may exist at two-way stop controlled intersections including two-stage gap acceptance, approaches with shared lanes, the presence of upstream traffic signals and flared approaches for minor-street right-turning vehicles. Table A-2 provides a description of LOS at unsignalized intersections.

Table 2: Unsignalized Intersection LOS Description (Motorized Vehicle Mode)

Control Delay (Seconds per Vehicle)	***LOS by Volume-to-Capacity Ratio***	
	v/c ≤ 1.0	***v/c > 1.0***
≤10	A	F
>10 to 15	B	F
>15 to 25	C	F
>25 to 35	D	F
>35 to 50	E	F
>50	F	F

Note: Source: HCM 7th Edition, Exhibit 21-8.

Roundabout Controlled Intersections

Roundabouts are intersections with a generally circular shape, characterized by yield on entry and circulation around a central island. Roundabouts have been used successfully throughout the world and are being used increasingly in the United States, especially since 1990. Intersection analysis models generally fall into two categories: regression models and analytical models. Regression models use field data to develop statistically derived relationships between geometric features and performance measures such as capacity and delay. Analytical models are based on traffic flow theory combined with field measures of driver behavior, resulting in an analytical formulation of the relationship of driver behavior, resulting in an analytical formulation of the relationship between those field measures and performance measures such as capacity and delay. Table A-3 provides a description of LOS at roundabout intersections.

Table 3: Roundabout Intersection Level of Service Description (Automobile Mode)

Control Delay (Seconds per Vehicle)	***LOS by Volume-to-Capacity Ratio***	
	v/c ≤ 1.0	***v/c > 1.0***
≤10	A	F
>10 to 15	B	F
>15 to 25	C	F
>25 to 35	D	F
>35 to 50	E	F
>50	F	F

Note: Source: HCM 7th Edition, Exhibit 22-8.

Segment Levels of Service

Segments are portions of roads without any interruption of flow. These typically include basic freeway segments, multilane highway segments, freeway weaving segments, freeway merge and diverge segments, two-lane highway segments and urban street segments.

Urban Street Segments (Motorized Vehicle Mode)

The term "urban street segments" refers to two elements that are found: points and segments. A point is the boundary between links and is represented by an intersection or ramp terminal. A link is a length of roadway between two points. A link and its boundary are referred to as a segment. A signalized intersection is always used to define a boundary. Only intersections, or ramp terminals, in which the segment through volumes is uncontrolled can exist along the segment. A midsegment traffic control signal provided for the exclusive use of pedestrians should not be used to define a segment boundary. Chapter 18 of the Highway Capacity Manual categorizes each LOS as follows:

LOS A describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal. Travel speeds exceed 80 percent of the base free flow speed (FFS) and the volume-to-capacity ratio is no greater than 1.0.

LOS B describes reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant. The travel speed is between 67 and 80 percent of the base FFS and the volume-to-capacity ratio is no greater than 1.0.

LOS C describes stable operations. The ability to maneuver and change lanes in midblock location may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds. The travel speed is between 50 and 67 percent of the base FFS and the volume-to-capacity ratio is no greater than 1.0.

LOS D indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volumes or inappropriate signal timing at the boundary intersections. The travel speed is between 40 and 50 percent of the base FFS and the volume-to-capacity ratio is no greater than 1.0.

LOS E is characterized as an unstable operation and has significant delay. Such operations may be due to some combination of adverse progression, high volume and inappropriate signal timing at the boundary intersections. The travel speed is between 30 and 40 percent of the base FFS and the volume-to-capacity ratio is no greater than 1.0.

LOS F is characterized by flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing. The travel speed is 30 percent or less of the base FFS or the volume-to-capacity ratio is greater than 1.0.

Urban Street Segments LOS

Two performance measures are used to characterize vehicular LOS for a given direction of travel along an urban street segment. One measure is travel speed for through vehicles. This speed reflects the factors that influence running time along the link and the delay uncured by through vehicles at the boundary intersections. The second measures Is the volume-to-capacity ratio for the through movements at the downstream boundary intersection. These performance measures indicate the degree of mobility provided by the segment. Table A-4 provides a description of LOS for Urban Street Segments.

Table 4: Urban Street Segment Levels of Service (Motorized Vehicle Mode)

LOS	*Travel Speed Threshold by Base Free-Flow Speed (miles/hour)*							*Volume-to-Capacity Ratio*
	55	**50**	**45**	**40**	**35**	**30**	**25**	
A	>44	>40	>36	>32	>28	>24	>20	≤ 1.0
B	>37	>34	>30	>27	>23	>20	>17	
C	>28	>25	>23	>20	>18	>15	>13	
D	>22	>20	>18	>16	>14	>12	>10	
E	>17	>15	>14	>12	>11	>9	>8	
F	≤17	≤15	≤14	≤12	≤11	≤9	≤8	
F	Any							> 1.0

Note: a = Volume-to-capacity ratio of through movement at downstream boundary intersection.
Source: Highway Capacity Manual 7th Edition, Exhibit 18-1.

Basic Freeway and Multilane Highway Segments

Segments of multilane highways and basic freeways outside the influence of merging maneuvers, diverging maneuvers, weaving maneuvers, or signalized intersections define LOS by density. Density describes a motorist's proximity to other vehicles and is related to a motorist's freedom to maneuver within the traffic stream. Chapter 12 of the Highway Capacity Manual categorizes each LOS as follows:

LOS A describes free-flow operations. FFS prevails on the freeway or multilane highway, and vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed.

LOS B represents reasonably free-flow operations, and FFS on the freeway or multilane highway is maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents are still easily absorbed.

LOS C provides for flow with speeds near the FFS of the freeway or multilane highway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service quality will be significant. Queues may be expected to form behind any significant blockages.

LOS D is the level at which speeds begin to decline with increasing flows, with density increasing more quickly. Freedom to maneuver within the traffic stream is seriously limited, and drivers experience reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.

LOS E describes operation at or near capacity. Operations on the freeway or multilane highway at this level are highly volatile because there are virtually no usable gaps within the traffic stream, leaving little room to maneuver within the traffic stream. Any disruption to the traffic stream, such as vehicles entering from a ramp or an access point or a vehicle changing lanes, can establish a disruption wave that propagates throughout the upstream traffic stream. Toward the upper boundary of LOS E, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown and substantial queuing. The physical and psychological comfort afforded to drivers is poor.

LOS F describes unstable flow. Such conditions exist within queues forming behind bottlenecks. Breakdowns occur for a number of reasons:

- Traffic incidents can temporarily reduce the capacity of a short segment so that the number of vehicles arriving at a point is greater than the number of vehicles that can move through it.
- Points of recurring congestion, such as merge or weaving segments and lane drops, experience very high demand in which the number of vehicles arriving is greater than the number of vehicles that can be discharged.
- In analyses using forecast volumes, the projected flow rate can exceed the estimated capacity of a given location.

Basic Freeway

Basic Freeway segments generally have four to eight lanes (in both directions) and posted speed limits between 50 and 75 mi/hr. The median type depends on right-of-way constraints and other factors. The performance measures include capacity, free flow speed, demand and volume-to-capacity ratio, space mean speed, average density and LOS. The following performance measures are evaluated for each segment: capacity, FFS, demand-to-capacity or volume-to-capacity ratios, space mean average, average density, travel time, vehicle miles traveled, vehicle hours of travel and vehicle hours of delay. Table A-5 provides a description of LOS for Basic Freeway Segments.

Multilane Highway

Multilane Highway segments generally have four to six lanes (in both directions) and posted speed limits between 40 and 55 mi/hr. These highways may be divided, undivided or divided by a two-way left-turn lane. The performance measures include capacity, free flow speed, demand and volume-to-capacity ratio, space mean speed, average density and LOS. The following performance measures are evaluated for each segment: capacity, FFS, demand-to-capacity or volume-to-capacity ratios, space mean average, average density, travel time, vehicle miles traveled, vehicle hours of travel and vehicle hours of delay. Table A-5 provides a description of LOS for Multilane Highway Segments.

Table 5: Basic Freeway and Multilane Highway Segment Level of Service Description

Level of Service	*Density (Passenger Cars per Mile per Lane)*	
	Urban	*Rural*
A	≤11	≤6
B	>11 to 18	>6 to 14
C	>18 to 26	>14 to 22
D	>26 to 35	>22 to 29
E	>35 to 45	>29 to 39
F	>45 or Demand Exceeds Capacity	>39 or Demand Exceeds Capacity

Note: Source: HCM 7th Edition, Exhibit 10-6.

Two-Lane Highway Segments

Two-Lane Highways generally have one lane per direction. The single lane in each direction may be supplemented with passing lanes, truck climbing lanes, turnouts or pullouts. If allowed, passing maneuvers are limited by the availability of gaps in the opposing traffic stream and by the availability of sufficient sight distance for a driver to discern the approach of an opposing vehicle safely. A principal measure of LOS is average speed, percent followers and follower density. Chapter 15 of the Highway Capacity Manual categorizes each LOS as follows:

At **LOS A**, motorists experience operating speeds near the posted speed limit and little difficulty in passing. Platooning is minimal and follower density is very low.

At **LOS B through LOS D,** represent gradations between the conditions for LOS A and LOS E.

At **LOS E**, speeds may still be reasonable, but platooning is significant and follower density is high. Passing, if allowed is essentially impossible.

LOS F exists whenever demand flow in one or both directions exceeds the segment's capacity. When demand exceeds capacity, it is expected that there will be a reduction in the capacity at the bottleneck.

Two-Lane Highway

The performance measures include average speed, FFS and follower density. The LOS output is calculated for an establish segment boundary that includes consistent terrain, lane widths, shoulder widths, facility classification and demand flow rate. Table A-6 provides a description of LOS for Two-Lane Highway Segments.

Table 6: Two-Lane Highway Segment Level of Service Description

LOS	*Follower Density (Followers per Mile per Lane)*	
	Higher-Speed Highways Posted Speed Limit ≥ 50 miles per hour	*Lower-Speed Highways Posted Speed Limit < 50 miles per hour*
A	≤2.0	≤2.5
B	>2.0 to 4.0	>2.5 to 5.0
C	>4.0 to 8.0	>5.0 to 10.0
D	>8.0 to 12.0	>10.0 to 15.0
E	>12.0	>15.0

Note: Source: HCM 7th Edition, Exhibit 15-6.

Appendix E: Existing Traffic Conditions

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	443	13	1	632	5	2
Future Vol, veh/h	443	13	1	632	5	2
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	95	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	1	1	3	1	1
Mvmt Flow	476	14	1	680	5	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	491	0	819	239
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	342	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	1076	-	316	765
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	694	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1075	-	315	764
Mov Cap-2 Maneuver	-	-	-	-	315	-
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	693	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	379	-	-	1075	-
HCM Lane V/C Ratio	0.02	-	-	0.001	-
HCM Control Delay (s)	14.7	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	5	13	256	162	11
Future Vol, veh/h	3	5	13	256	162	11
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	1	1	1	3	3	1
Mvmt Flow	4	6	16	316	200	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	556	208	215	0	-	0
Stage 1	208	-	-	-	-	-
Stage 2	348	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	494	835	1361	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	717	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	486	834	1359	-	-	-
Mov Cap-2 Maneuver	486	-	-	-	-	-
Stage 1	817	-	-	-	-	-
Stage 2	716	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1359	-	657	-	-
HCM Lane V/C Ratio	0.012	-	0.015	-	-
HCM Control Delay (s)	7.7	0	10.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	648	6	10	553	1	0
Future Vol, veh/h	648	6	10	553	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	95	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	1	1	3	1	1
Mvmt Flow	682	6	11	582	1	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	688	0	995	341
Stage 1	-	-	-	-	682	-
Stage 2	-	-	-	-	313	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	909	-	243	658
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	717	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	909	-	239	658
Mov Cap-2 Maneuver	-	-	-	-	239	-
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	704	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	20.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	239	-	-	909	-
HCM Lane V/C Ratio	0.004	-	-	0.012	-
HCM Control Delay (s)	20.1	-	-	9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	16	3	184	212	5
Future Vol, veh/h	6	16	3	184	212	5
Conflicting Peds, #/hr	1	0	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	3	3	1
Mvmt Flow	6	17	3	192	221	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	429	230	232	0	-	0
Stage 1	230	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	585	812	1342	-	-	-
Stage 1	811	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	575	807	1333	-	-	-
Mov Cap-2 Maneuver	575	-	-	-	-	-
Stage 1	803	-	-	-	-	-
Stage 2	831	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1333	-	727	-	-
HCM Lane V/C Ratio	0.002	-	0.032	-	-
HCM Control Delay (s)	7.7	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 1: Project Drwy 1 & Yosemite Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	23
Average Queue (ft)	5
95th Queue (ft)	20
Link Distance (ft)	325
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Parsons Ave & Project Drwy 2

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	28	26
Average Queue (ft)	5	1
95th Queue (ft)	22	8
Link Distance (ft)	480	1667
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 0

Intersection: 1: Project Drwy 1 & Yosemite Ave

Movement	WB
Directions Served	LT
Maximum Queue (ft)	30
Average Queue (ft)	6
95th Queue (ft)	26
Link Distance (ft)	445
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Parsons Ave & Project Drwy 2

Movement	EB	SB
Directions Served	LR	TR
Maximum Queue (ft)	28	31
Average Queue (ft)	17	6
95th Queue (ft)	39	27
Link Distance (ft)	480	533
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 0

Appendix F: Existing plus Project Traffic Conditions

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	448	15	1	644	7	2
Future Vol, veh/h	448	15	1	644	7	2
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	95	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	1	1	3	1	1
Mvmt Flow	482	16	1	692	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	499	0	831	242
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	348	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	1068	-	310	762
Stage 1	-	-	-	-	589	-
Stage 2	-	-	-	-	689	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1067	-	309	761
Mov Cap-2 Maneuver	-	-	-	-	309	-
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	688	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	356	-	-	1067	-
HCM Lane V/C Ratio	0.027	-	-	0.001	-
HCM Control Delay (s)	15.4	-	-	8.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	7	3	271	168	5
Future Vol, veh/h	14	7	3	271	168	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	1	1	1	3	3	1
Mvmt Flow	17	9	4	335	207	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	554	211	214	0	-	0
Stage 1	211	-	-	-	-	-
Stage 2	343	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	495	832	1362	-	-	-
Stage 1	827	-	-	-	-	-
Stage 2	721	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	492	831	1360	-	-	-
Mov Cap-2 Maneuver	492	-	-	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	720	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1360	-	569	-	-
HCM Lane V/C Ratio	0.003	-	0.046	-	-
HCM Control Delay (s)	7.7	0	11.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	662	9	10	561	5	0
Future Vol, veh/h	662	9	10	561	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	95	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	1	1	3	1	1
Mvmt Flow	697	9	11	591	5	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	706	0	1015	349
Stage 1	-	-	-	-	697	-
Stage 2	-	-	-	-	318	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	895	-	236	650
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	895	-	232	650
Mov Cap-2 Maneuver	-	-	-	-	232	-
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	700	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	20.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	232	-	-	895	-
HCM Lane V/C Ratio	0.023	-	-	0.012	-
HCM Control Delay (s)	20.9	-	-	9.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	5	9	189	230	16
Future Vol, veh/h	9	5	9	189	230	16
Conflicting Peds, #/hr	1	0	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	3	3	1
Mvmt Flow	9	5	9	197	240	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	471	255	263	0	-	0
Stage 1	255	-	-	-	-	-
Stage 2	216	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	553	786	1307	-	-	-
Stage 1	790	-	-	-	-	-
Stage 2	822	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	541	781	1298	-	-	-
Mov Cap-2 Maneuver	541	-	-	-	-	-
Stage 1	778	-	-	-	-	-
Stage 2	816	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1298	-	608	-	-
HCM Lane V/C Ratio	0.007	-	0.024	-	-
HCM Control Delay (s)	7.8	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 1: Project Drwy 1 & Yosemite Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	8
Average Queue (ft)	2
95th Queue (ft)	7
Link Distance (ft)	325
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Parsons Ave & Project Drwy 2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	11
95th Queue (ft)	34
Link Distance (ft)	480
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

Intersection: 1: Project Drwy 1 & Yosemite Ave

Movement	WB
Directions Served	LT
Maximum Queue (ft)	26
Average Queue (ft)	5
95th Queue (ft)	23
Link Distance (ft)	445
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Parsons Ave & Project Drwy 2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	22
95th Queue (ft)	41
Link Distance (ft)	480
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

Appendix G: Near Term plus Project Traffic Conditions

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	674	15	1	947	7	2
Future Vol, veh/h	674	15	1	947	7	2
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	95	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	1	1	3	1	1
Mvmt Flow	725	16	1	1018	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	742	0	1237	364
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	511	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	868	-	169	636
Stage 1	-	-	-	-	443	-
Stage 2	-	-	-	-	570	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	867	-	168	635
Mov Cap-2 Maneuver	-	-	-	-	168	-
Stage 1	-	-	-	-	443	-
Stage 2	-	-	-	-	568	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	201	-	-	867	-
HCM Lane V/C Ratio	0.048	-	-	0.001	-
HCM Control Delay (s)	23.8	-	-	9.2	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	7	3	305	197	5
Future Vol, veh/h	14	7	3	305	197	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	1	1	3	3	1
Mvmt Flow	16	8	3	347	224	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	581	228	231	0	-	0
Stage 1	228	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	478	814	1343	-	-	-
Stage 1	812	-	-	-	-	-
Stage 2	713	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	476	813	1342	-	-	-
Mov Cap-2 Maneuver	476	-	-	-	-	-
Stage 1	809	-	-	-	-	-
Stage 2	712	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1342	-	552	-	-
HCM Lane V/C Ratio	0.003	-	0.043	-	-
HCM Control Delay (s)	7.7	0	11.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1027	9	10	947	5	0
Future Vol, veh/h	1027	9	10	947	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	95	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	1	1	3	1	1
Mvmt Flow	1081	9	11	997	5	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1090	0	1602	541
Stage 1	-	-	-	-	1081	-
Stage 2	-	-	-	-	521	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	642	-	97	488
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	563	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	642	-	93	488
Mov Cap-2 Maneuver	-	-	-	-	93	-
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	542	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	46
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	93	-	-	642	-
HCM Lane V/C Ratio	0.057	-	-	0.016	-
HCM Control Delay (s)	46	-	-	10.7	-
HCM Lane LOS	E	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	5	9	242	276	16
Future Vol, veh/h	9	5	9	242	276	16
Conflicting Peds, #/hr	1	0	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	3	3	1
Mvmt Flow	9	5	9	252	288	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	574	303	311	0	-	0
Stage 1	303	-	-	-	-	-
Stage 2	271	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	482	739	1255	-	-	-
Stage 1	751	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	471	734	1247	-	-	-
Mov Cap-2 Maneuver	471	-	-	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	772	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1247	-	540	-	-
HCM Lane V/C Ratio	0.008	-	0.027	-	-
HCM Control Delay (s)	7.9	0	11.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 1: Project Drwy 1 & Yosemite Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	22
Average Queue (ft)	4
95th Queue (ft)	19
Link Distance (ft)	325
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Parsons Ave & Project Drwy 2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	17
95th Queue (ft)	39
Link Distance (ft)	480
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

Intersection: 1: Project Drwy 1 & Yosemite Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 2: Parsons Ave & Project Drwy 2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	6
95th Queue (ft)	24
Link Distance (ft)	480
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

Appendix H: Cumulative Year 2046 No Project Traffic Conditions

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	753	17	1	964	7	3
Future Vol, veh/h	753	17	1	964	7	3
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	95	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	1	1	3	1	1
Mvmt Flow	810	18	1	1037	8	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	829	0	1332	406
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	521	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	805	-	147	597
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	563	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	804	-	146	596
Mov Cap-2 Maneuver	-	-	-	-	146	-
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	561	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	25.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	189	-	-	804	-
HCM Lane V/C Ratio	0.057	-	-	0.001	-
HCM Control Delay (s)	25.2	-	-	9.5	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	5	13	347	218	11
Future Vol, veh/h	3	5	13	347	218	11
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	3	3	1
Mvmt Flow	3	5	14	377	237	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	649	244	250	0	-	0
Stage 1	244	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	436	797	1321	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	429	796	1320	-	-	-
Mov Cap-2 Maneuver	429	-	-	-	-	-
Stage 1	788	-	-	-	-	-
Stage 2	675	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1320	-	603	-	-
HCM Lane V/C Ratio	0.011	-	0.014	-	-
HCM Control Delay (s)	7.8	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1075	8	13	1040	1	0
Future Vol, veh/h	1075	8	13	1040	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	95	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	1	1	3	1	1
Mvmt Flow	1132	8	14	1095	1	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1140	0	1708	566
Stage 1	-	-	-	-	1132	-
Stage 2	-	-	-	-	576	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	614	-	83	470
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	528	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	614	-	78	470
Mov Cap-2 Maneuver	-	-	-	-	78	-
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	497	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	51.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	78	-	-	614	-
HCM Lane V/C Ratio	0.013	-	-	0.022	-
HCM Control Delay (s)	51.8	-	-	11	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	16	3	247	289	5
Future Vol, veh/h	6	16	3	247	289	5
Conflicting Peds, #/hr	1	0	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	3	3	1
Mvmt Flow	6	17	3	257	301	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	574	310	312	0	-	0
Stage 1	310	-	-	-	-	-
Stage 2	264	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	482	732	1254	-	-	-
Stage 1	746	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	474	727	1246	-	-	-
Mov Cap-2 Maneuver	474	-	-	-	-	-
Stage 1	739	-	-	-	-	-
Stage 2	778	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1246	-	635	-	-
HCM Lane V/C Ratio	0.003	-	0.036	-	-
HCM Control Delay (s)	7.9	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 1: Project Drwy 1 & Yosemite Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	22
Average Queue (ft)	4
95th Queue (ft)	19
Link Distance (ft)	325
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Parsons Ave & Project Drwy 2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	11
95th Queue (ft)	33
Link Distance (ft)	480
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

Intersection: 1: Project Drwy 1 & Yosemite Ave

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	26	22
Average Queue (ft)	5	4
95th Queue (ft)	22	19
Link Distance (ft)	445	325
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Parsons Ave & Project Drwy 2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	17
95th Queue (ft)	39
Link Distance (ft)	480
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

Appendix I: Cumulative Year 2046 plus Project Traffic Conditions

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	758	19	1	976	9	3
Future Vol, veh/h	758	19	1	976	9	3
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	95	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	1	1	3	1	1
Mvmt Flow	815	20	1	1049	10	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	836	0	1343	409
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	527	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	800	-	144	594
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	559	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	799	-	143	593
Mov Cap-2 Maneuver	-	-	-	-	143	-
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	557	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	27.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	176	-	-	799	-
HCM Lane V/C Ratio	0.073	-	-	0.001	-
HCM Control Delay (s)	27.1	-	-	9.5	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	7	3	362	224	5
Future Vol, veh/h	14	7	3	362	224	5
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	3	3	1
Mvmt Flow	15	8	3	393	243	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	646	247	249	0	-	0
Stage 1	247	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	438	794	1323	-	-	-
Stage 1	796	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	436	793	1322	-	-	-
Mov Cap-2 Maneuver	436	-	-	-	-	-
Stage 1	793	-	-	-	-	-
Stage 2	679	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1322	-	513	-	-
HCM Lane V/C Ratio	0.002	-	0.044	-	-
HCM Control Delay (s)	7.7	0	12.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1089	11	13	1048	5	0
Future Vol, veh/h	1089	11	13	1048	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	95	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	1	1	3	1	1
Mvmt Flow	1146	12	14	1103	5	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1158	0	1726	573
Stage 1	-	-	-	-	1146	-
Stage 2	-	-	-	-	580	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	605	-	81	465
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	526	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	605	-	76	465
Mov Cap-2 Maneuver	-	-	-	-	76	-
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	494	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	55.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	76	-	-	605	-
HCM Lane V/C Ratio	0.069	-	-	0.023	-
HCM Control Delay (s)	55.9	-	-	11.1	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	5	9	252	307	16
Future Vol, veh/h	9	5	9	252	307	16
Conflicting Peds, #/hr	1	0	6	0	0	6
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	3	3	1
Mvmt Flow	9	5	9	263	320	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	617	335	343	0	-	0
Stage 1	335	-	-	-	-	-
Stage 2	282	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	455	709	1222	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	445	704	1214	-	-	-
Mov Cap-2 Maneuver	445	-	-	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	763	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1214	-	512	-	-
HCM Lane V/C Ratio	0.008	-	0.028	-	-
HCM Control Delay (s)	8	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 1: Project Drwy 1 & Yosemite Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 2: Parsons Ave & Project Drwy 2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	69
Average Queue (ft)	30
95th Queue (ft)	75
Link Distance (ft)	480
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

Intersection: 1: Project Drwy 1 & Yosemite Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	22
Average Queue (ft)	4
95th Queue (ft)	19
Link Distance (ft)	325
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Parsons Ave & Project Drwy 2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	6
95th Queue (ft)	24
Link Distance (ft)	480
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

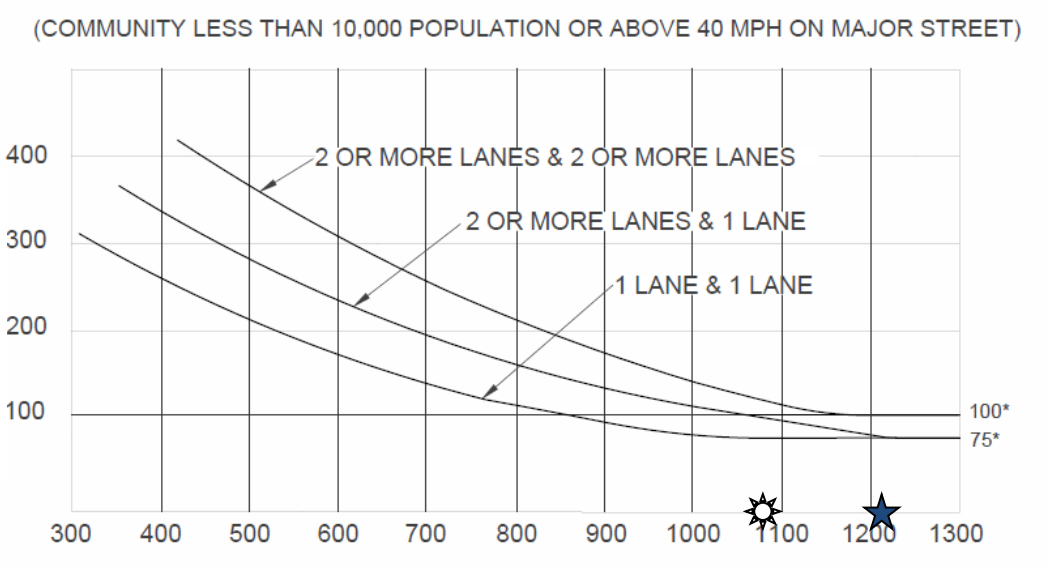
Zone wide Queuing Penalty: 0

Appendix J: Traffic Signal Warrants

Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
1. Driveway 1 / Yosemite Avenue
AM (PM) Peak Hour

Driveway 1 Highest Approach Volume = 7 (1) VPH



Yosemite Avenue Total of Both Approaches =

1089 (1217) VPH

*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 approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

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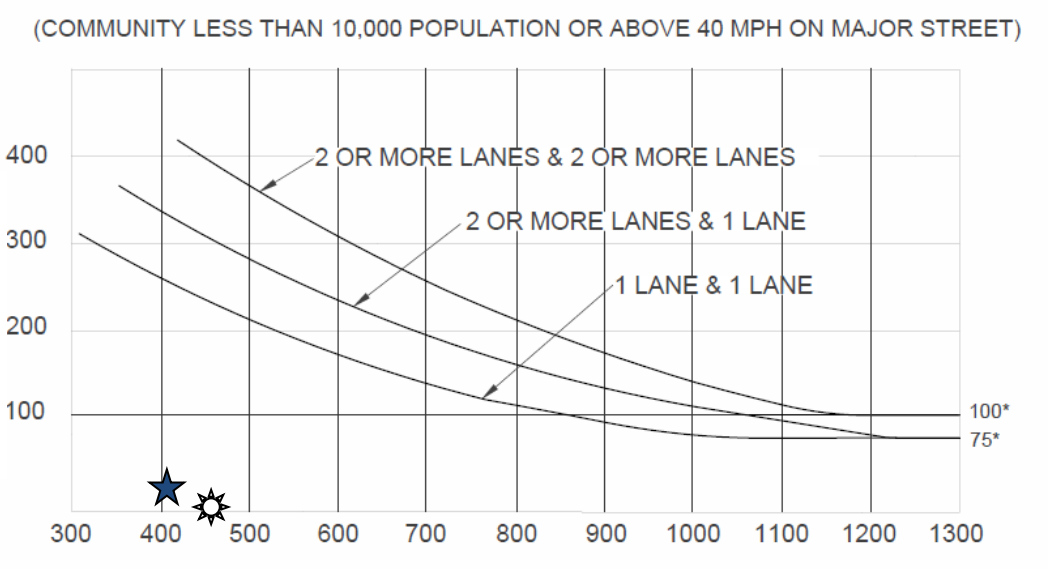
Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
2. Parsons Avenue / Driveway 2
AM (PM) Peak Hour

Driveway 2
Highest Approach Volume =
8 (22) VPH



Parsons Avenue Total of Both Approaches =

442 (404) VPH

*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 approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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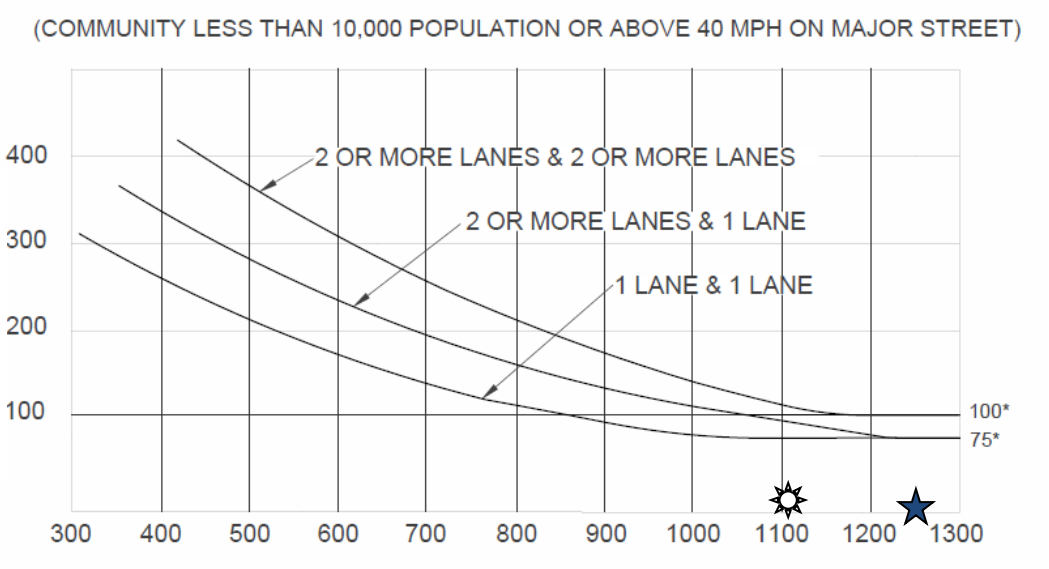
Warrant 3: Peak Hour (Rural)

Existing plus Project Traffic Conditions
1. Driveway 1 / Yosemite Avenue
AM (PM) Peak Hour

Driveway 1 Highest Approach Volume = 9 (5) VPH



Yosemite Avenue Total of Both Approaches =

1108 (1242) VPH

*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 approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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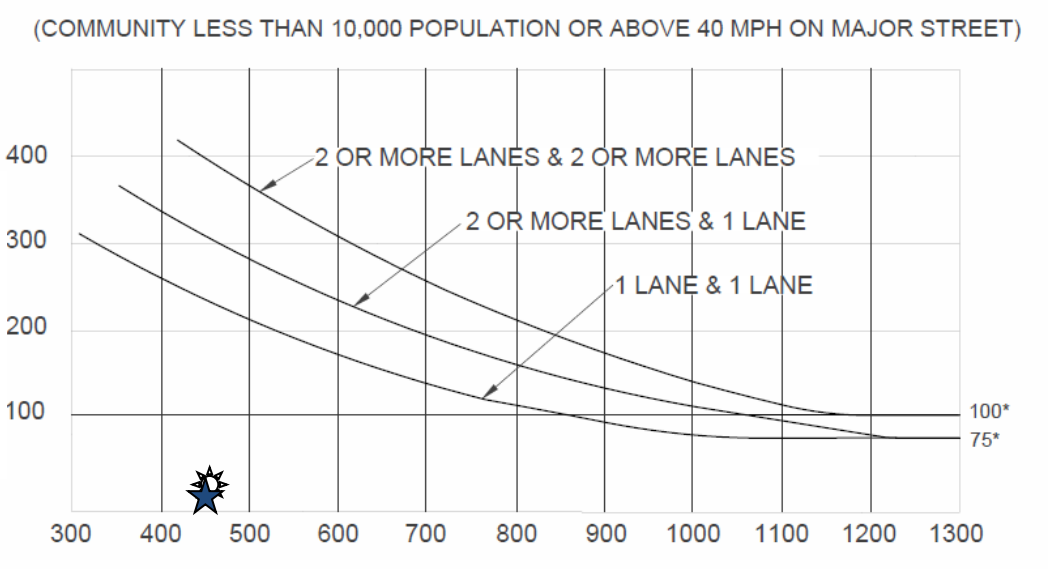
Warrant 3: Peak Hour (Rural)

Existing plus Project Traffic Conditions
2. Parsons Avenue / Driveway 2
AM (PM) Peak Hour

Driveway 2
Highest Approach Volume =
21 (14) VPH



Parsons Avenue Total of Both Approaches =

447 (444) VPH

*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 approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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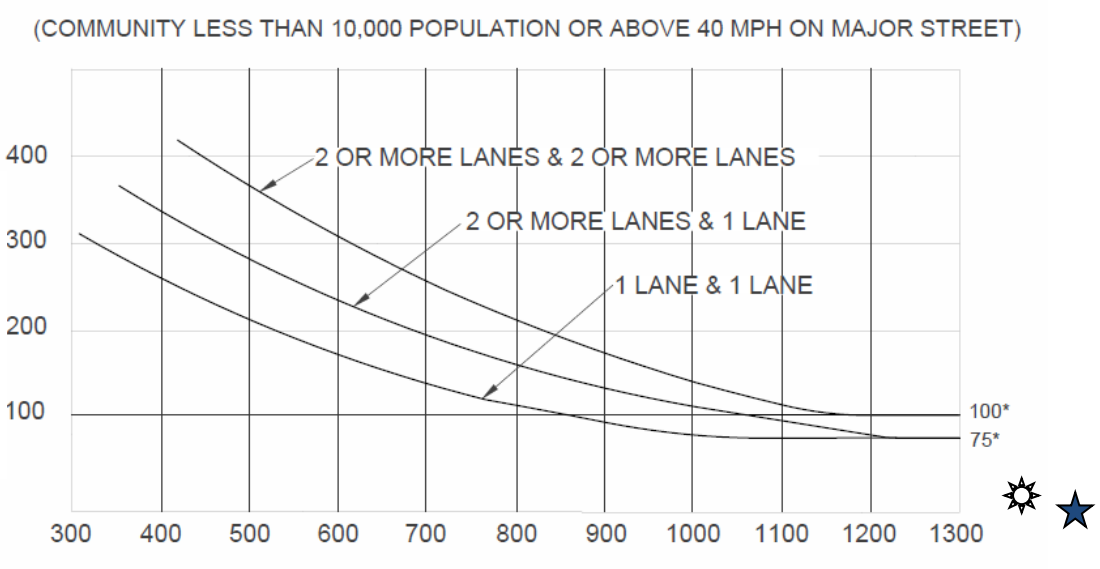
Warrant 3: Peak Hour (Rural)

Near Term plus Project Traffic Conditions
1. Driveway 1 / Yosemite Avenue
AM (PM) Peak Hour

Driveway 1 Highest Approach Volume = 9 (5) VPH



Yosemite Avenue Total of Both Approaches =

1637 (1993) VPH

*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 approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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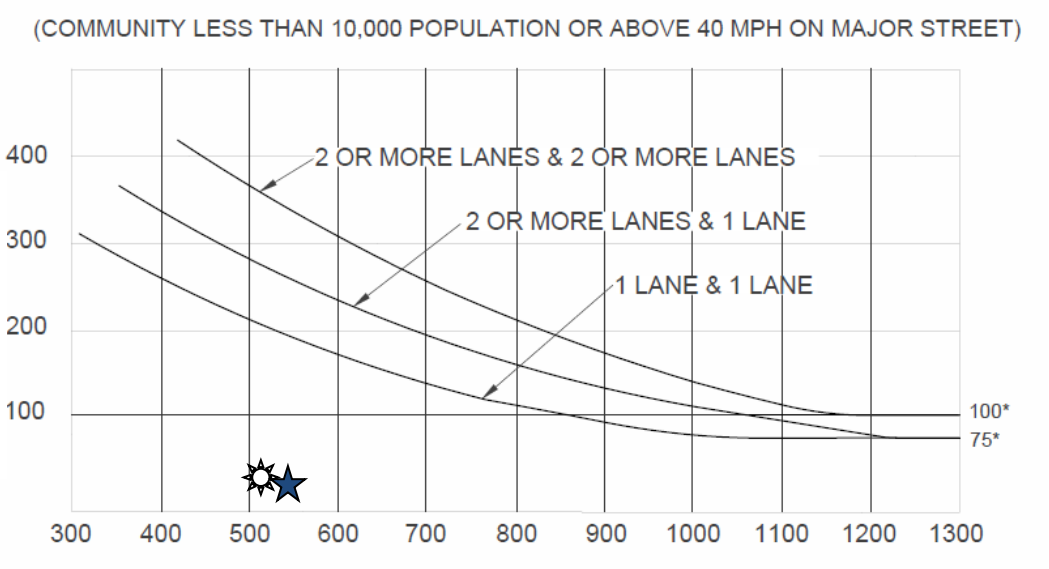
Warrant 3: Peak Hour (Rural)

Near Term plus Project Traffic Conditions
2. Parsons Avenue / Driveway 2
AM (PM) Peak Hour

Driveway 2
Highest Approach Volume =
21 (14) VPH



Parsons Avenue Total of Both Approaches =

510 (543) VPH

*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 approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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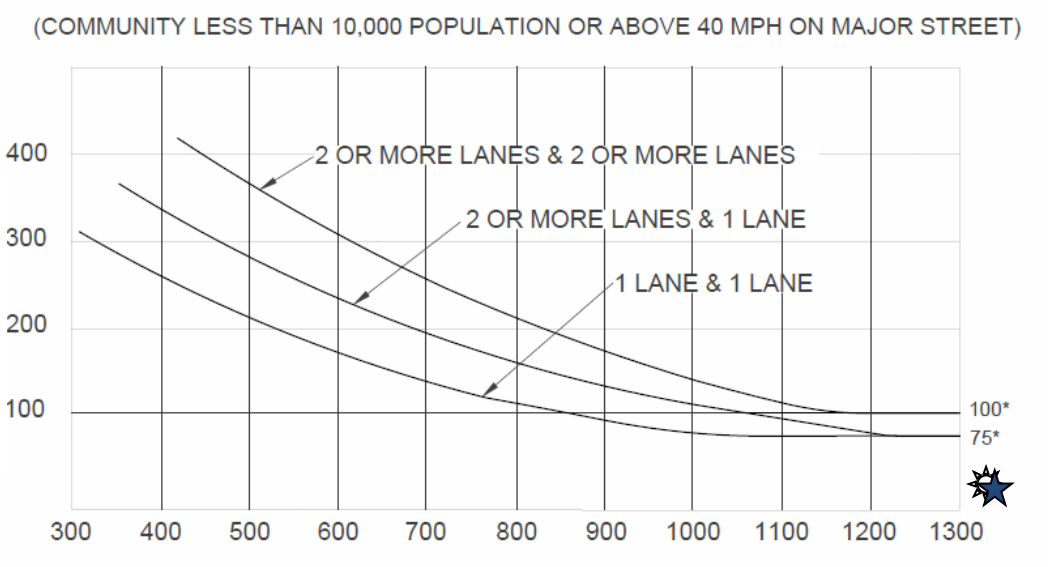
Warrant 3: Peak Hour (Rural)

Cumulative Year 2046 No Project Traffic Conditions
1. Driveway 1 / Yosemite Avenue
AM (PM) Peak Hour

Driveway 1 Highest Approach Volume = 10 (1) VPH



Yosemite Avenue Total of Both Approaches =

1735 (2136) VPH

*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 approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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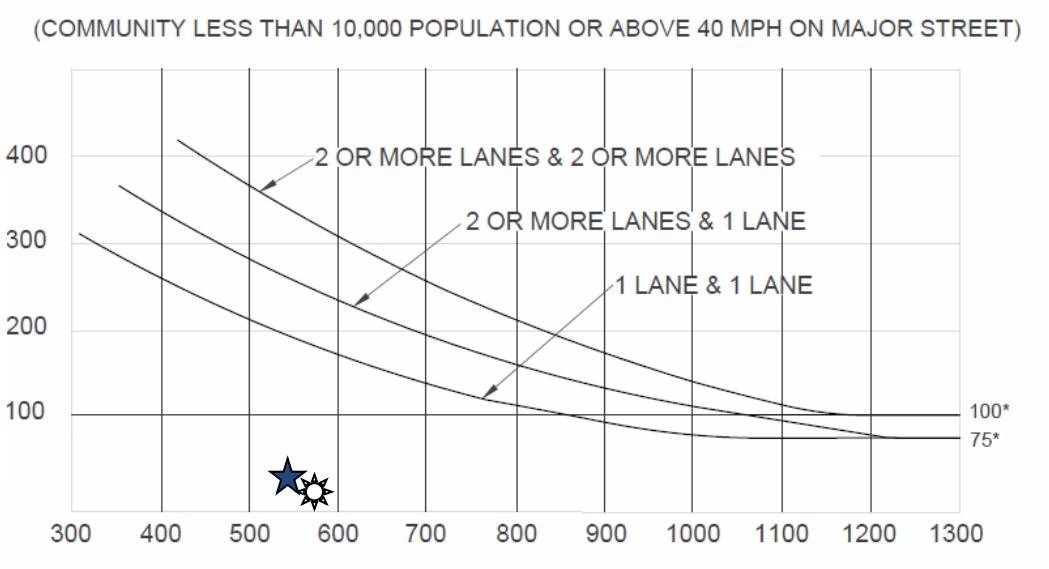
Warrant 3: Peak Hour (Rural)

Cumulative Year 2046 No Project Traffic Conditions
2. Parsons Avenue / Driveway 2
AM (PM) Peak Hour

Driveway 2
Highest Approach Volume =
8 (22) VPH



Parsons Avenue Total of Both Approaches =

589 (544) VPH

*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 approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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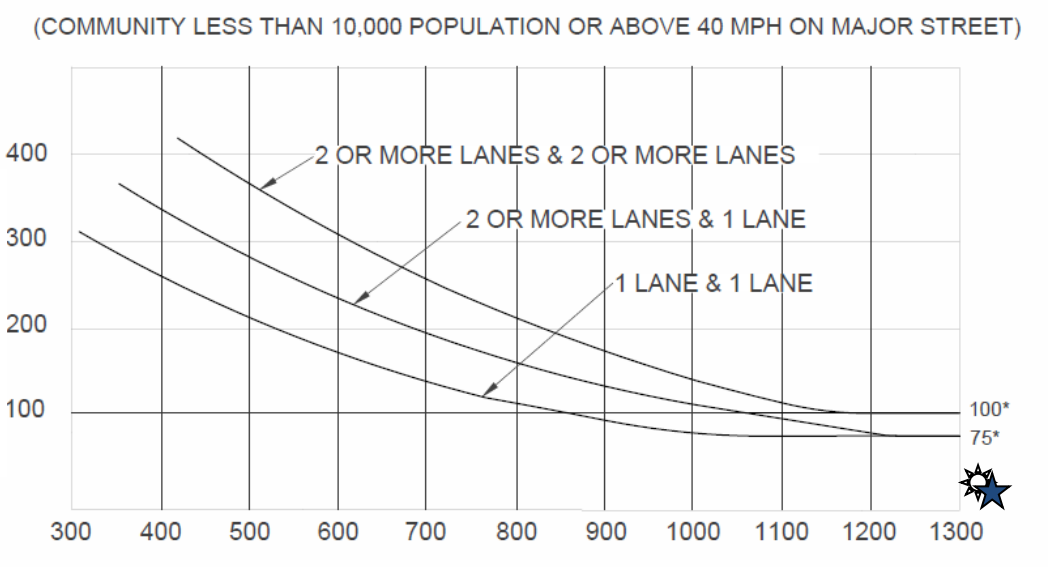
Warrant 3: Peak Hour (Rural)

Cumulative Year 2046 plus Project Traffic Conditions
1. Driveway 1 / Yosemite Avenue
AM (PM) Peak Hour

Driveway 1 Highest Approach Volume = 12 (5) VPH



Yosemite Avenue Total of Both Approaches =

1754 (2161) VPH

*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 approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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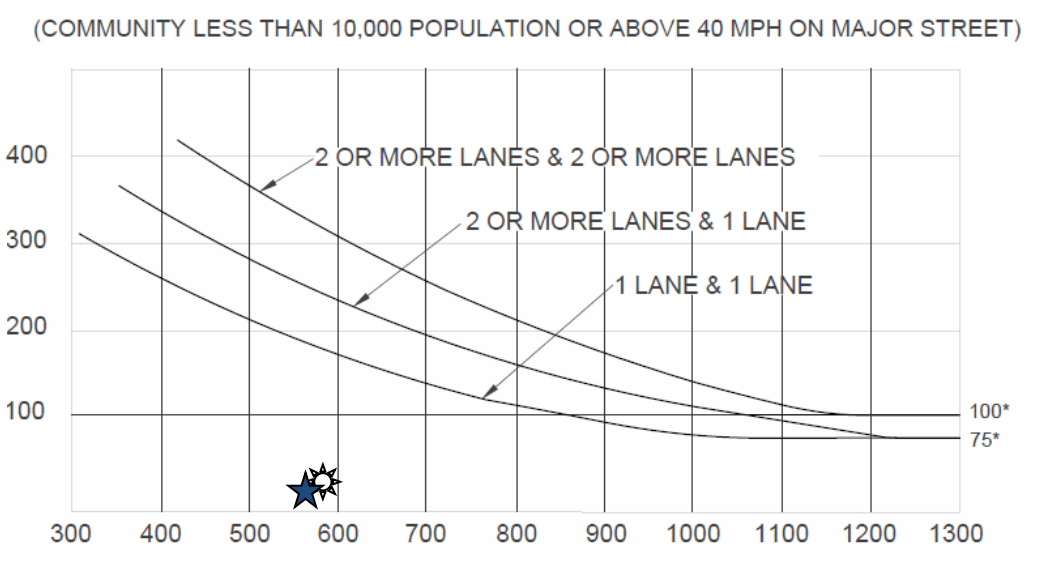
Warrant 3: Peak Hour (Rural)

Cumulative Year 2046 plus Project Traffic Conditions
2. Parsons Avenue / Driveway 2
AM (PM) Peak Hour

Driveway 2
Highest Approach Volume =
21 (14) VPH



Parsons Avenue Total of Both Approaches =

594 (584) VPH

*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 approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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October 3, 2024

Mr. Yushin Imura, P.E.
Managing Partner
YCG Civil Engineering
Work (510) 228-6961
E-mail: Yushin@YCG.io

Subject: CalEEMod Air Quality and Greenhouse Gas Study for a Residential and Storage Development in Merced, CA

Dear Mr. Imura:

Yorke Engineering, LLC (Yorke) is pleased to provide this technical letter report which includes the Air Quality (AQ) and Greenhouse Gas (GHG) CEQA significance evaluation for residential and storage development in Merced, CA. This report provides California Emissions Estimator Model® (CalEEMod) emissions estimates, criteria pollutant analysis, and GHG analysis for the proposed Project in the City of Merced, CA (the City), which is within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD).

PROJECT DESCRIPTION

Yosemite 1380, LLC is proposing a residential and storage development to be located at 1380 East Yosemite Avenue [Assessor's Parcel Numbers (APNs) 006-050-068 and 006-050-072] in the City of Merced, CA (the City). The 7.2-acre project includes 42 residential lots and one commercial lot that will provide 75,359 square feet of mini storage units.

ASSUMPTIONS

The following basic assumptions were used in developing the emission estimates for the proposed Project using CalEEMod:

- CalEEMod defaults were applied, unless otherwise specified.
- During construction, any exposed soil and unpaved roads will be watered as required by the SJVAPCD (Regulation VIII), to control fugitive dust emissions.
- The operational trip rates are from "Vehicle Miles Traveled Analysis" prepared by JLB Traffic Engineering, Inc., dated September 25, 2024 (JLB 2024).

LIST OF TABLES

The Project analyses and results are summarized in the following tables:

- Table 1: Land Use Data for CalEEMod Input
- Table 2: SJVAPCD CEQA Thresholds of Significance
- Table 3: Construction Emissions Summary and Significance Evaluation
- Table 4: Operational Emissions Summary and Significance Evaluation

- Table 5: Greenhouse Gas Emissions Summary and Significance Evaluation

AIR QUALITY AND GREENHOUSE GAS IMPACTS ANALYSES

In order to evaluate the questions in the Air Quality and Greenhouse Gas Emissions Sections of the checklist, quantitative significance criteria established by the local air quality agency, such as SJVAPCD, and/or the lead agency may be relied upon to make significance determinations based on mass emissions of criteria pollutants and GHGs, as determined in this report. As shown below, approval of the project would not result in any significant effects relating to air quality or greenhouse gases.

Project Emissions Estimation

The operation analysis was performed using CalEEMod version 2022.1.1.28, the official statewide land use computer model designed to provide a uniform platform for estimating potential criteria pollutant and GHG emissions associated with both construction and operations of land use projects under CEQA. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The mobile source emission factors used in the model –published by the California Air Resources Board (CARB) – include the Pavley standards and Low Carbon Fuel standards. The model also identifies project design features, regulatory measures, and measures to control criteria pollutant and GHG emissions along with calculating the benefits achieved from the selected measures. CalEEMod was developed by the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the SJVAPCD, the Bay Area Air Quality Management District (BAAQMD), the South Coast Air Quality Management District (SCAQMD), and other California air districts. Default land use data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) were provided by the various California air districts to account for local requirements and conditions. As the official assessment methodology for land use projects in California, CalEEMod is relied upon herein for construction and operational emissions quantification, which forms the basis for the impact analysis.

Based on information received from the Applicant, land use data for CalEEMod input is presented in Table 1. The SJVAPCD quantitative significance thresholds shown in Table 2 were used to evaluate Project emissions impacts (SJVAPCD 2015a,b,c).

Table 1: Land Use Data for CalEEMod Input						
Land Use Type	**Land Use Subtype**	**Unit Amount**	**Size Metric**	**Lot Acreage (footprint)**	**Square Feet**	**Description**
Residential	Single Family Housing	42	Dwelling Units	3.160	137,650	Residential lots
Commercial	Office Park	75.359	1,000 sq. ft.	1.730	75,359	Commercial office-Storage Facilities
Parking	Other Asphalt Surfaces	94.961	1,000 sq. ft.	2.180	94,961	Driveways, and other paved areas
			Landscape Area	0.130	5,663	Landscape
			Project Size	7.20	313,632	

CalEEMod version 2022.1.1.28
Notes:
Electric utility: Merced Irrigation District
Gas utility: Pacific Gas & Electric

Table 2: SJVAPCD CEQA Thresholds of Significance		
Pollutant	**Annual Threshold***	**APR-2030 Threshold****
	tons/yr	**lbs/day**
ROG	10	100
NO_X	10	100
CO	100	100
SO_X	27	100
PM_{10}	15	100
$PM_{2.5}$	15	100
Toxic Air Contaminants (including carcinogens and non-carcinogens)	Maximally Exposed Individual risk equals or exceeds 20 in one million	
	Acute: Hazard Index equals or exceeds 1 for the Maximally Exposed Individual	
	Chronic: Hazard Index equals or exceeds 1 for the Maximally Exposed Individual	
Greenhouse Gases	Implement Best Performance Standards (BPS) (see Discussion)	
	Reduce Project GHG Emission by 29% over Business as Usual (see Discussion)	

Source: SJVAPCD 2015a,b; 2018; 2009a,b
*Construction or operation
**Stationary sources only

Criteria Pollutants from Project Construction

A project's construction phase produces many types of emissions. Fugitive dust emissions, which include respirable particulate matter with an aerodynamic diameter of less than 10 microns (PM_{10}) and fine particulate matter with an aerodynamic diameter of less than 2.5 microns ($PM_{2.5}$), can result from a variety of construction activities, including excavation, grading, demolition, vehicle travel on paved and unpaved surfaces, and vehicle exhaust. Construction-related emissions can cause

substantial increases in localized concentrations of PM_{10}, as well as affecting PM_{10} compliance with ambient air quality standards on a regional basis. Particulate emissions from construction activities can lead to adverse health effects as well as nuisance concerns such as impaired visibility and soiling of exposed surfaces. The use of diesel-powered construction equipment emits ozone precursors oxides of nitrogen (NO_x) and reactive organic gases (ROG), and diesel particulate matter (DPM). Use of architectural coatings and other materials associated with finishing buildings may also emit ROG. CEQA significance thresholds address the impacts of construction activity emissions on local and regional air quality.

The SJVAPCD's approach to CEQA analyses of fugitive dust impacts is to require implementation of effective and comprehensive dust control measures under Regulation VIII – Fugitive PM_{10} Prohibitions – rather than to require detailed quantification of emissions. PM_{10} emitted during construction can vary greatly depending on the level of activity, the specific operations taking place, the equipment being operated, local soils, weather conditions, and other factors, making quantification difficult. Despite this variability in emissions, experience has shown that there are several feasible control measures that can be reasonably implemented to significantly control fugitive dust emissions from construction. The SJVAPCD has determined that implementing Best Management Practices (BMPs), primarily through frequent water application, constitutes sufficient controls to control PM_{10} impacts to a level considered less than significant.

Criteria Pollutants from Project Operation

The term "project operations" refers to the full range of activities that can or may generate criteria pollutant and GHG emissions when the project is functioning in its intended use. For projects, such as office parks, shopping centers, apartment buildings, residential subdivisions, and other indirect sources, motor vehicles traveling to and from the project represent the primary source of air pollutant emissions. For industrial projects and some commercial projects, equipment operation and manufacturing processes, i.e., permitted stationary sources, can be of greatest concern from an emissions standpoint. CEQA significance thresholds address the impacts of operational emission sources on local and regional air quality.

Results of Criteria Emissions Analyses

Tables 3 and 4 show the annual and daily construction emissions while Tables 5 and 6 show the annual and daily operational emissions. These tables evaluate project emissions against SJVAPCD significance thresholds. As shown in these tables, mass emissions of criteria pollutants from construction and operation of the proposed Project are below applicable SJVAPCD significance thresholds. Since the proposed Project would result in emissions, which are below the significance thresholds adopted for both construction and operations phase emissions, less than significant air quality impacts would occur.

Table 3: Construction Emissions Summary and Significance Evaluation			
Criteria Pollutants	**Project Emissions (tons/year)**	**Threshold (tons/year)**	**Significant?**
ROG	<1	10	No
NO_X	1	10	No
CO	2	100	No
SO_X	<1	27	No
Total PM_{10}	<1	15	No
Total $PM_{2.5}$	<1	15	No

Sources: SJVAPCD 2015a,b,c; CalEEMod version 2022.1.1.28
Notes:
Total PM_{10} / $PM_{2.5}$ comprises fugitive dust plus engine exhaust

Table 4: Daily Construction Emissions Summary and Significance Evaluation			
Criteria Pollutants	**Project Emissions (lbs/day)**	**Threshold (lbs/day)**	**Significant?**
ROG	62.0	100	No
NO_X	31.7	100	No
CO	31.0	100	No
SO_X	<1	100	No
Total PM_{10}	9.2	100	No
Total $PM_{2.5}$	5.2	100	No

Sources: SJVAPCD 2015a,b,c; CalEEMod version 2022.1.1.28
Notes:
Total PM_{10} / $PM_{2.5}$ comprises fugitive dust plus engine exhaust

Table 5: Operational Emissions Summary and Significance Evaluation			
Criteria Pollutants	**Project Emissions (tons/year)**	**Threshold (tons/year)**	**Significant?**
ROG	1.29	10	No
NO_X	<1	10	No
CO	2.38	100	No
SO_X	<1	27	No
Total PM_{10}	<1	15	No
Total $PM_{2.5}$	<1	15	No

Sources: SJVAPCD 2015a,b,c; CalEEMod version 2022.1.1.28
Notes:
Total PM_{10} / $PM_{2.5}$ comprises fugitive dust plus engine exhaust

Table 6: Daily Operational Emissions Summary and Significance Evaluation			
Criteria Pollutants	**Project Emissions (lbs/day)**	**Threshold (lbs/day)**	**Significant?**
ROG	8	100	No
NO_X	3	100	No
CO	17	100	No
SO_X	<1	100	No
Total PM_{10}	2	100	No
Total $PM_{2.5}$	1	100	No

Sources: SJVAPCD 2015a,b,c; CalEEMod version 2022.1.1.28

IMPACT: Less Than Significant

Greenhouse Gas Emissions from Construction and Operation

Greenhouse gases – primarily carbon dioxide (CO_2), methane (CH_4), nitrous (N_2O) oxide, and fluorinated compounds, including sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs), collectively reported as carbon dioxide equivalents (CO_2e) – are directly emitted from stationary source combustion of natural gas in equipment such as water heaters, boilers, process heaters, and furnaces. GHGs are also emitted from mobile sources such as on-road and off-road vehicles burning fuels such as gasoline, diesel, biodiesel, propane, or natural gas (compressed or liquefied). Indirect GHG emissions result from electric power generated elsewhere (i.e., power plants) used to operate process equipment, lighting, and utilities at a facility. Also, included in GHG quantification is electric power used to pump the water supply (e.g., aqueducts, wells, pipelines) and disposal and decomposition of municipal waste in landfills. (CARB 2022a,b).

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2022 standards improved upon the 2019 standards for new construction of, and additions and alterations to, residential, commercial, and industrial buildings. The 2022 standards went into effect on January 1, 2023 [California Energy Commission (CEC) 2022].

Since the Title 24 standards require energy conservation features in new construction (e.g., high-efficiency lighting, high-efficiency heating, ventilating, and air-conditioning (HVAC) systems, thermal insulation, double-glazed windows, water conserving plumbing fixtures, etc.), they indirectly regulate and control GHG emissions.

Using CalEEMod, direct on-site and off-site GHG emissions were estimated for construction and operation, and indirect off-site GHG emissions were estimated to account for electric power used by the proposed Project, water conveyance, and solid waste disposal. CalEEMod also quantifies common refrigerant GHGs (abbreviated as "R" in the model output) used in air conditioning and refrigeration equipment, some of which are HFCs.

Results of Greenhouse Gas Emissions Analysis

SJVAPCD is responsible for protecting public health and welfare through the administration of federal and state air quality laws and policies. In December 2009, SJVAPCD adopted the Final Staff Report Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act (SJVAPCD 2009). SJVAPCD also developed guidance for land-use agencies to address GHG emission impacts for new development projects. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would have a less than significant individual and

cumulative impact related to GHG emissions. Projects implementing best performance standards and reducing project-specific GHG emissions by at least 29% compared to the business-as-usual condition would have a less than significant individual and cumulative impact on global climate change under this guidance. However, models used to estimate GHG emissions now include some of the statewide measures that previously would have been used to evaluate this 29% reduction performance standard, so this particular method of comparison is out of date. To establish the context in which to consider the project's GHG emissions, this analysis used guidance from the adjacent Sacramento Metropolitan Air Quality Management District (SMAQMD) to determine significance. In 2014, SMAQMD adopted a significance threshold for GHG emissions consistent with the goals of Assembly Bill (AB) 32: 1,100 metric tons (MT) CO_2e per year for construction-related and operational emissions (SMAQMD 2020)[1]. This significance threshold was developed to assess the consistency of a project's emissions with the statewide framework for reducing GHG emissions.

Table 7 shows the Project's GHG emissions and evaluates them against the SMAQMD significance threshold. Operational efficiency measures incorporate typical code-required energy and water conservation features. Off-site traffic impacts are included in these emissions estimates, along with construction emissions amortized over 30 years. As shown in Table 7, the proposed Project would not exceed emissions thresholds adopted by SMAQMD.

Table 7: Greenhouse Gas Emissions Summary and Significance Evaluation

Greenhouse Gases	Amortized Construction Emissions (MT/yr)	Operations Emissions (MT/yr)	Project Emissions[1] (MT/yr)	Threshold (MT/yr)	Significant?
CO_2	13	996	1,009	—	—
CH_4	<1	2	2	—	—
N_2O	<1	<1	<1	—	—
R	<1	<1	<1	—	—
CO_2e	13	1,048	1,061	1,100	No

Sources: Applicant 2024, CalEEMod, Threshold is from SMAQMD (2020).

Notes:

[1]Comprises annual operational emissions plus construction emissions amortized over 30 years

In 2012, the City of Merced adopted the Merced Climate Action Plan (CAP) to address the reduction of major sources of GHG emissions. The CAP established an emissions target of 1990 levels by 2020, commensurate with the State of California's target (City of Merced 2012). To meet this goal, the City adopted values, goals, and strategies to control emissions. Goals of the plan include eight focus areas:

- Enhanced mobility of all transportation modes;
- Sustainable community design;
- Water conservation and technology;
- Protection of air resources;
- Waste reduction;
- Increased use of renewable energy sources;

[1] Guidance updated in 2020.

- Building energy conservation; and
- Public outreach and involvement.

The proposed Project would be built in accordance with California's Building Energy Efficiency and Title 24 standards and would therefore be consistent with the goals of the Merced CAP.

As such, the project would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This impact would be less than significant.

IMPACT: Less Than Significant

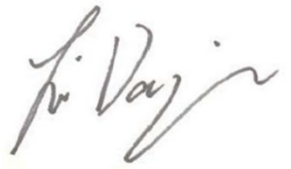
CONCLUSION

The air quality and GHG impacts of the proposed Project were evaluated and shown to have a less than significant impact and no mitigation measures are needed.

CLOSING

Thank you very much for the opportunity to be of assistance. Should you have any questions, please contact me (949) 324-9041 (mobile) or Bradford Boyes at (805) 217-4947 (mobile).

Sincerely,



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Enclosures/Attachments:

CalEEMod Outputs

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ATTACHMENT 1 – CALEEMOD OUTPUTS

YCG Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	YCG
Construction Start Date	1/6/2025
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	23.4
Location	1380 E Yosemite Ave, Merced, CA 95340, USA
County	Merced
City	Merced
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2336
EDFZ	14
Electric Utility	Merced Irrigation District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	42.0	Dwelling Unit	3.16	137,650	0.00	—	142	—

Office Park	75.4	1000sqft	1.73	75,359	5,663	—	—	—
Other Asphalt Surfaces	95.0	1000sqft	2.18	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	62.0	11.2	15.7	0.03	0.44	0.42	0.86	0.40	0.10	0.51	—	3,170	3,170	0.12	0.10	2.53	3,204
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	62.0	31.7	31.0	0.05	1.37	7.80	9.17	1.26	3.97	5.23	—	5,428	5,428	0.22	0.10	0.07	5,449
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.55	8.06	10.4	0.02	0.32	0.60	0.93	0.30	0.24	0.54	—	2,083	2,083	0.08	0.06	0.63	2,102
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.65	1.47	1.90	< 0.005	0.06	0.11	0.17	0.05	0.04	0.10	—	345	345	0.01	0.01	0.10	348

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.37	11.2	15.7	0.03	0.44	0.42	0.86	0.40	0.10	0.51	—	3,170	3,170	0.12	0.10	2.53	3,204
2026	62.0	0.88	1.59	< 0.005	0.02	0.06	0.08	0.02	0.01	0.04	—	199	199	0.01	< 0.005	0.25	201
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.40	31.7	31.0	0.05	1.37	7.80	9.17	1.26	3.97	5.23	—	5,428	5,428	0.22	0.10	0.07	5,449
2026	62.0	10.6	14.9	0.03	0.38	0.42	0.80	0.35	0.10	0.46	—	3,119	3,119	0.12	0.09	0.06	3,150
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.95	8.06	10.4	0.02	0.32	0.60	0.93	0.30	0.24	0.54	—	2,083	2,083	0.08	0.06	0.63	2,102
2026	3.55	1.19	1.72	< 0.005	0.05	0.04	0.08	0.04	0.01	0.05	—	320	320	0.01	0.01	0.09	323
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.17	1.47	1.90	< 0.005	0.06	0.11	0.17	0.05	0.04	0.10	—	345	345	0.01	0.01	0.10	348
2026	0.65	0.22	0.31	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	53.0	53.0	< 0.005	< 0.005	0.01	53.4

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.63	3.09	17.1	0.03	0.13	1.77	1.90	0.13	0.45	0.58	89.1	6,396	6,485	9.39	0.25	8.85	6,803
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.67	3.26	10.6	0.03	0.13	1.77	1.89	0.12	0.45	0.57	89.1	6,216	6,305	9.41	0.26	1.37	6,619
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	7.05	2.91	13.0	0.03	0.11	1.74	1.85	0.11	0.44	0.55	89.1	5,924	6,013	9.39	0.25	4.49	6,328
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.29	0.53	2.38	0.01	0.02	0.32	0.34	0.02	0.08	0.10	14.8	981	996	1.55	0.04	0.74	1,048

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.90	1.73	10.6	0.02	0.02	1.77	1.79	0.02	0.45	0.47	—	2,346	2,346	0.11	0.16	7.68	2,403
Area	5.67	0.40	5.81	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	462	462	0.01	< 0.005	—	463
Energy	0.05	0.96	0.68	0.01	0.07	—	0.07	0.07	—	0.07	—	3,526	3,526	0.28	0.02	—	3,540
Water	—	—	—	—	—	—	—	—	—	—	29.1	61.6	90.7	2.99	0.07	—	187
Waste	—	—	—	—	—	—	—	—	—	—	60.0	0.00	60.0	6.00	0.00	—	210
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Total	7.63	3.09	17.1	0.03	0.13	1.77	1.90	0.13	0.45	0.58	89.1	6,396	6,485	9.39	0.25	8.85	6,803
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.69	1.95	9.80	0.02	0.02	1.77	1.79	0.02	0.45	0.47	—	2,186	2,186	0.14	0.16	0.20	2,239
Area	4.93	0.35	0.15	< 0.005	0.03	—	0.03	0.03	—	0.03	0.00	442	442	0.01	< 0.005	—	443
Energy	0.05	0.96	0.68	0.01	0.07	—	0.07	0.07	—	0.07	—	3,526	3,526	0.28	0.02	—	3,540
Water	—	—	—	—	—	—	—	—	—	—	29.1	61.6	90.7	2.99	0.07	—	187
Waste	—	—	—	—	—	—	—	—	—	—	60.0	0.00	60.0	6.00	0.00	—	210
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Total	6.67	3.26	10.6	0.03	0.13	1.77	1.89	0.12	0.45	0.57	89.1	6,216	6,305	9.41	0.26	1.37	6,619
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	1.71	1.84	9.53	0.02	0.02	1.74	1.77	0.02	0.44	0.47	—	2,227	2,227	0.13	0.16	3.32	2,281
Area	5.28	0.10	2.83	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	109	109	< 0.005	< 0.005	—	109
Energy	0.05	0.96	0.68	0.01	0.07	—	0.07	0.07	—	0.07	—	3,526	3,526	0.28	0.02	—	3,540
Water	—	—	—	—	—	—	—	—	—	—	29.1	61.6	90.7	2.99	0.07	—	187
Waste	—	—	—	—	—	—	—	—	—	—	60.0	0.00	60.0	6.00	0.00	—	210
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Total	7.05	2.91	13.0	0.03	0.11	1.74	1.85	0.11	0.44	0.55	89.1	5,924	6,013	9.39	0.25	4.49	6,328
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.31	0.34	1.74	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	369	369	0.02	0.03	0.55	378
Area	0.96	0.02	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18.1	18.1	< 0.005	< 0.005	—	18.1
Energy	0.01	0.17	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	584	584	0.05	< 0.005	—	586
Water	—	—	—	—	—	—	—	—	—	—	4.82	10.2	15.0	0.49	0.01	—	30.9
Waste	—	—	—	—	—	—	—	—	—	—	9.94	0.00	9.94	0.99	0.00	—	34.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	1.29	0.53	2.38	0.01	0.02	0.32	0.34	0.02	0.08	0.10	14.8	981	996	1.55	0.04	0.74	1,048

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.84	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	133	133	0.01	0.01	0.02	135
Vendor	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
Hauling	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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.76	3.76	< 0.005	< 0.005	0.01	3.82
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.63
Vendor	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
Hauling	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

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.89	0.98	< 0.005	0.04	—	0.04	0.04	—	0.04	—	162	162	0.01	< 0.005	—	163

Dust From Material Movement	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.16	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.72	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	114	114	0.01	< 0.005	0.01	116
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.45	6.45	< 0.005	< 0.005	0.01	6.55
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.07	1.07	< 0.005	< 0.005	< 0.005	1.08
Vendor	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
Hauling	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

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	5.87	7.32	0.01	0.24	—	0.24	0.22	—	0.22	—	1,347	1,347	0.05	0.01	—	1,351
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	1.07	1.34	< 0.005	0.04	—	0.04	0.04	—	0.04	—	223	223	0.01	< 0.005	—	224
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.22	0.15	2.48	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	334	334	0.02	0.01	1.34	340
Vendor	0.02	0.58	0.22	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	437	437	0.01	0.06	1.19	458
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.19	1.89	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	298	298	0.02	0.01	0.03	303
Vendor	0.02	0.62	0.23	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	438	438	0.01	0.06	0.03	457
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	1.11	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.33	176
Vendor	0.01	0.34	0.12	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	246	246	< 0.005	0.04	0.29	257
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.20	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.6	28.6	< 0.005	< 0.005	0.05	29.1
Vendor	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.7	40.7	< 0.005	0.01	0.05	42.5
Hauling	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

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405

Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.69	0.91	< 0.005	0.03	—	0.03	0.02	—	0.02	—	169	169	0.01	< 0.005	—	169
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.0	28.0	< 0.005	< 0.005	—	28.1
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.17	1.74	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	292	292	0.02	0.01	0.03	297
Vendor	0.01	0.59	0.21	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	430	430	0.01	0.06	0.03	448
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.2	21.2	< 0.005	< 0.005	0.04	21.6
Vendor	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.3	30.3	< 0.005	< 0.005	0.03	31.6
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.52	3.52	< 0.005	< 0.005	0.01	3.57
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.01	5.01	< 0.005	< 0.005	0.01	5.23
Hauling	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

3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.39	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.66	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	112	112	0.01	< 0.005	0.01	113
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.31	6.31	< 0.005	< 0.005	0.01	6.41
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.06
Vendor	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
Hauling	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

3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	61.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	61.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	3.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	0.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.46	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	65.5	65.5	< 0.005	< 0.005	0.25	66.6
Vendor	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
Hauling	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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.35	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.4	58.4	< 0.005	< 0.005	0.01	59.3
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.30	3.30	< 0.005	< 0.005	0.01	3.36
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.55	0.55	< 0.005	< 0.005	< 0.005	0.56
Vendor	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
Hauling	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

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.49	1.37	8.46	0.02	0.02	1.41	1.43	0.02	0.36	0.38	—	1,874	1,874	0.09	0.12	6.14	1,919
Office Park	0.41	0.36	2.19	< 0.005	< 0.005	0.35	0.36	< 0.005	0.09	0.09	—	472	472	0.02	0.03	1.54	484

Other Asphalt Surfaces	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
Total	1.90	1.73	10.6	0.02	0.02	1.77	1.79	0.02	0.45	0.47	—	2,346	2,346	0.11	0.16	7.68	2,403
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.32	1.54	7.75	0.02	0.02	1.41	1.43	0.02	0.36	0.38	—	1,746	1,746	0.11	0.13	0.16	1,788
Office Park	0.37	0.40	2.05	< 0.005	< 0.005	0.35	0.36	< 0.005	0.09	0.09	—	440	440	0.03	0.03	0.04	451
Other Asphalt Surfaces	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
Total	1.69	1.95	9.80	0.02	0.02	1.77	1.79	0.02	0.45	0.47	—	2,186	2,186	0.14	0.16	0.20	2,239
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.24	0.27	1.38	< 0.005	< 0.005	0.25	0.26	< 0.005	0.06	0.07	—	294	294	0.02	0.02	0.44	302
Office Park	0.07	0.07	0.36	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	74.3	74.3	< 0.005	0.01	0.11	76.1
Other Asphalt Surfaces	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
Total	0.31	0.34	1.74	< 0.005	< 0.005	0.32	0.32	< 0.005	0.08	0.08	—	369	369	0.02	0.03	0.55	378

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	445	445	0.03	< 0.005	—	447
Office Park	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.14	0.02	—	1,923
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,359	2,359	0.17	0.02	—	2,369
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	445	445	0.03	< 0.005	—	447
Office Park	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.14	0.02	—	1,923
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,359	2,359	0.17	0.02	—	2,369
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	73.6	73.6	0.01	< 0.005	—	73.9
Office Park	—	—	—	—	—	—	—	—	—	—	—	317	317	0.02	< 0.005	—	318
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	391	391	0.03	< 0.005	—	392

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.31	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	392	392	0.03	< 0.005	—	393
Office Park	0.04	0.65	0.55	< 0.005	0.05	—	0.05	0.05	—	0.05	—	776	776	0.07	< 0.005	—	778
Other Asphalt Surfaces	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
Total	0.05	0.96	0.68	0.01	0.07	—	0.07	0.07	—	0.07	—	1,167	1,167	0.10	< 0.005	—	1,171
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.31	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	392	392	0.03	< 0.005	—	393
Office Park	0.04	0.65	0.55	< 0.005	0.05	—	0.05	0.05	—	0.05	—	776	776	0.07	< 0.005	—	778
Other Asphalt Surfaces	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
Total	0.05	0.96	0.68	0.01	0.07	—	0.07	0.07	—	0.07	—	1,167	1,167	0.10	< 0.005	—	1,171
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	0.06	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	64.8	64.8	0.01	< 0.005	—	65.0
Office Park	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	128	128	0.01	< 0.005	—	129

Other Asphalt Surfaces	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
Total	0.01	0.17	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.02	0.35	0.15	< 0.005	0.03	—	0.03	0.03	—	0.03	0.00	442	442	0.01	< 0.005	—	443
Consumer Products	4.57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.75	0.05	5.66	< 0.005	0.01	—	0.01	0.01	—	0.01	—	19.8	19.8	< 0.005	< 0.005	—	19.9
Total	5.67	0.40	5.81	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	462	462	0.01	< 0.005	—	463
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.02	0.35	0.15	< 0.005	0.03	—	0.03	0.03	—	0.03	0.00	442	442	0.01	< 0.005	—	443
Consumer Products	4.57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	4.93	0.35	0.15	< 0.005	0.03	—	0.03	0.03	—	0.03	0.00	442	442	0.01	< 0.005	—	443
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	16.4	16.4	< 0.005	< 0.005	—	16.5
Consumer Products	0.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.07	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.62	1.62	< 0.005	< 0.005	—	1.63
Total	0.96	0.02	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18.1	18.1	< 0.005	< 0.005	—	18.1

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	3.43	7.24	10.7	0.35	0.01	—	22.0
Office Park	—	—	—	—	—	—	—	—	—	—	25.7	54.4	80.1	2.64	0.06	—	165
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	29.1	61.6	90.7	2.99	0.07	—	187

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	3.43	7.24	10.7	0.35	0.01	—	22.0
Office Park	—	—	—	—	—	—	—	—	—	—	25.7	54.4	80.1	2.64	0.06	—	165
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	29.1	61.6	90.7	2.99	0.07	—	187
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.57	1.20	1.77	0.06	< 0.005	—	3.64
Office Park	—	—	—	—	—	—	—	—	—	—	4.25	9.01	13.3	0.44	0.01	—	27.3
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	4.82	10.2	15.0	0.49	0.01	—	30.9

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	22.3	0.00	22.3	2.23	0.00	—	77.9

Office Park	—	—	—	—	—	—	—	—	—	—	37.8	0.00	37.8	3.78	0.00	—	132
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	60.0	0.00	60.0	6.00	0.00	—	210
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	22.3	0.00	22.3	2.23	0.00	—	77.9
Office Park	—	—	—	—	—	—	—	—	—	—	37.8	0.00	37.8	3.78	0.00	—	132
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	60.0	0.00	60.0	6.00	0.00	—	210
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	3.69	0.00	3.69	0.37	0.00	—	12.9
Office Park	—	—	—	—	—	—	—	—	—	—	6.25	0.00	6.25	0.63	0.00	—	21.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	9.94	0.00	9.94	0.99	0.00	—	34.8

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.99	0.99
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.99	0.99
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.16	0.16
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	2/4/2025	2/18/2025	5.00	10.0	—

Grading	Grading	2/19/2025	3/19/2025	5.00	20.0	—
Building Construction	Building Construction	3/20/2025	2/5/2026	5.00	230	—
Paving	Paving	2/6/2026	3/6/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	3/7/2026	4/4/2026	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	10.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.27	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	10.9	LDA,LDT1,LDT2
Grading	Vendor	—	8.27	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	39.2	10.9	LDA,LDT1,LDT2
Building Construction	Vendor	16.8	8.27	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	10.9	LDA,LDT1,LDT2
Paving	Vendor	—	8.27	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	7.85	10.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.27	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	278,741	92,914	113,039	37,680	5,698

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	15.0	0.00	—
Grading	—	—	20.0	0.00	—
Paving	0.00	0.00	0.00	0.00	2.64

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt

Single Family Housing	0.46	0%
Office Park	0.00	0%
Other Asphalt Surfaces	2.18	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	453	0.03	< 0.005
2026	0.00	453	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	387	387	387	141,255	1,973	1,973	1,973	720,254
Office Park	109	109	109	39,785	494	494	494	180,437
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	21

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	21
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
278741.25	92,914	113,039	37,680	5,698

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	358,080	453	0.0330	0.0040	1,221,781
Office Park	1,541,522	453	0.0330	0.0040	2,420,622
Other Asphalt Surfaces	0.00	453	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	1,787,631	0.00
Office Park	13,393,838	81,700
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	41.3	—
Office Park	70.1	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00

Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	28.1	annual days of extreme heat
Extreme Precipitation	1.85	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	17.4	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	72.5
AQ-PM	88.1
AQ-DPM	8.97
Drinking Water	62.8
Lead Risk Housing	32.4
Pesticides	40.2
Toxic Releases	8.99
Traffic	23.6
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	19.2
Impaired Water Bodies	33.2
Solid Waste	0.00
Sensitive Population	—
Asthma	96.0
Cardio-vascular	99.3
Low Birth Weights	60.6
Socioeconomic Factor Indicators	—

Education	33.5
Housing	70.8
Linguistic	24.8
Poverty	58.0
Unemployment	97.0

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	44.25766714
Employed	20.45425382
Median HI	50.34004876
Education	—
Bachelor's or higher	50.78916977
High school enrollment	100
Preschool enrollment	20.42858976
Transportation	—
Auto Access	49.51879892
Active commuting	27.03708456
Social	—
2-parent households	4.234569485
Voting	48.19709996
Neighborhood	—
Alcohol availability	63.76235083
Park access	57.85961761
Retail density	39.34300013
Supermarket access	59.07866034

Tree canopy	50.62235339
Housing	—
Homeownership	43.98819453
Housing habitability	74.14346208
Low-inc homeowner severe housing cost burden	86.71885025
Low-inc renter severe housing cost burden	45.0019248
Uncrowded housing	96.93314513
Health Outcomes	—
Insured adults	50.93032208
Arthritis	23.1
Asthma ER Admissions	1.1
High Blood Pressure	11.6
Cancer (excluding skin)	27.6
Asthma	34.7
Coronary Heart Disease	31.2
Chronic Obstructive Pulmonary Disease	31.1
Diagnosed Diabetes	54.0
Life Expectancy at Birth	19.8
Cognitively Disabled	3.3
Physically Disabled	13.7
Heart Attack ER Admissions	0.9
Mental Health Not Good	47.3
Chronic Kidney Disease	35.4
Obesity	33.5
Pedestrian Injuries	43.6
Physical Health Not Good	46.9
Stroke	39.4
Health Risk Behaviors	—

Binge Drinking	48.9
Current Smoker	50.3
No Leisure Time for Physical Activity	53.2
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	92.2
Elderly	36.8
English Speaking	84.8
Foreign-born	11.2
Outdoor Workers	36.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	75.2
Traffic Density	13.7
Traffic Access	0.0
Other Indices	—
Hardship	57.3
Other Decision Support	—
2016 Voting	62.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	56.0
Healthy Places Index Score for Project Location (b)	35.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project specific
Construction: Construction Phases	vacant site, no demolition
Operations: Vehicle Data	Project specific trip rates
Operations: Hearths	no wood fireplace or stoves